Contents Update Record

August 2019 (v4.0)
This document was updated following formal review (2nd cycle) of the Breast Cancer Quality Performance Indicators (QPIs) which took place following analysis of year 6 of the breast cancer QPI data.

The following QPIs have been updated:

- QPI 6: Immediate Reconstruction Rate
- QPI 8: Minimising Hospital Stay
- QPI 9: HER2 Status for Decision Making
- QPI 10: Radiotherapy for Breast Conservation in Older Adults
- QPI 11: Adjuvant Chemotherapy
- QPI 14: Referral for Genetics Testing
- QPI 15: 30 Day Mortality following Systemic Anti-Cancer Therapy (SACT)

The following QPIs have been archived:

- QPI 1: Multidisciplinary Team Meeting (MDT)
- QPI 2: Non-operative Diagnosis
- QPI 3: Pre-Operative Assessment of Axilla
- QPI 4: Conservation Rate
- QPI 5: Surgical Margins

The following new QPIs have been added:

- QPI 17: Genomic Testing
- QPI 18: Neoadjuvant Chemotherapy
- QPI 19: Deep Inspiratory Breath Hold (DIBH) Radiotherapy

Please note the revised Clinical Trials and Research Study Access QPI has also been added (see QPI 16: Clinical Trials & Research Study Access).

As a result of the changes above, the contents page and page numbering differ from earlier versions of this document. Sections 1 - 10 and the appendices have also been updated.

Please note that this version of the Breast Cancer QPI Document applies to cases diagnosed from 1st January 2018 onwards. Where amended or new QPIs require new data items for measurement, this will apply for patients diagnosed from 1st January 2019.

July 2016 (v3.0)
This document was updated following formal review of the Breast Cancer Quality Performance Indicators (QPIs) which took place following analysis of year 3 of the breast cancer QPI data.

The following QPIs have been updated:

- QPI 1: Multidisciplinary Team Meeting (MDT)
- QPI 4: Conservation Rate
- QPI 6: Immediate Reconstruction Rate
- QPI 8: Minimising Hospital Stay – Day Case Surgery
- QPI 9: HER2 Status for Decision Making
- QPI 10: Radiotherapy for Breast Conservation
- QPI 11: Adjuvant Chemotherapy
The following QPIs have been archived:

- QPI 7: Negative Axillary Clearance Rate
- QPI 12: Anti-HER2 Positive Therapy

The following new QPIs have been added:

- QPI 13: Re-excision Rates
- QPI 14: Referral for Genetics Testing
- QPI 15: 30 Day Mortality Following Chemotherapy

Please note the extant Clinical Trials QPI has now been added into each tumour specific QPI document (see QPI 16: Clinical Trials).

As a result of the changes above, the contents page and page numbering differ from earlier versions of this document. Sections 1 - 11 and the appendices have also been updated.

Please note that this version of the Breast Cancer QPI Document applies to cases diagnosed from 1st January 2016 onwards.

Previous Updates:

October 2014 (v2.0)
This document was updated following baseline review of the Breast Cancer QPIs which took place following analysis of year 1 of the breast cancer QPI data. As a result, the following QPIs have been updated:

- QPI4: Conservation Rate
- QPI6: Immediate Reconstruction Rate
- QPI12: Anti-HER2 Positive Therapy

Please note that v2.0 of the Breast Cancer QPI Document applies to cases diagnosed from 1st January 2014 onwards.

August 2013 (v1.3)
The document was updated to include QPI 1: Multi-Disciplinary Team (MDT) Meeting. The overall QPI numbering, contents page and the page numbering were amended as a result and therefore differ from earlier versions of this document.
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1. National Cancer Quality Programme

Beating Cancer: Ambition and Action (2016)\(^1\) details a commitment to delivering the national cancer quality programme across NHSScotland, with a recognised need for national cancer QPIs to support a culture of continuous quality improvement. Addressing variation in the quality of cancer services is pivotal to delivering improvements in quality of care. This is best achieved if there is consensus and clear indicators for what good cancer care looks like.

Small sets of cancer specific outcome focussed, evidence based indicators are in place for 18 different tumour types. These are underpinned by patient experience QPIs that are applicable to all, irrespective of tumour type. These QPIs ensure that activity is focused on those areas that are most important in terms of improving survival and individual care experience whilst reducing variation and supporting the most effective and efficient delivery of care for people with cancer. QPIs are kept under regular review and are responsive to changes in clinical practice and emerging evidence.

A programme to review and update the QPIs in line with evolving evidence is in place as well as a robust mechanism by which additional QPIs will be developed over the coming years.

1.1 Quality Assurance and Continuous Quality Improvement

The ultimate aim of the programme is to develop a framework, and foster a culture of, continuous quality improvement, whereby real time data is reviewed regularly at an individual Multi Disciplinary Team (MDT)/Unit level and findings actioned to deliver continual improvements in the quality of cancer care. This is underpinned and supported by a programme of regional and national comparative reporting and review.

NHS Boards are required to report against QPIs as part of a mandatory, publicly reported, programme at a national level. A rolling programme of reporting is in place, with approximately three national tumour specific reports published annually. National reports include comparative reporting of performance against QPIs at MDT/Unit level across NHSScotland, trend analysis and survival. This approach helps to overcome existing issues relating to the reporting of small volumes in any one year.

In the intervening years tumour specific QPIs are monitored on an annual basis through established Regional Cancer Network and local governance processes, with analysed data submitted to Information Services Division (ISD) for inclusion in subsequent national reports. This approach ensures that timely action is taken in response to any issues that may be identified through comparative reporting and systematic review.

2. Quality Performance Indicator (QPI) Development Process

The QPI development process was designed to ensure that indicators are developed in an open, transparent and timely way. The development process can be found in appendix 1.

The Breast Cancer QPI Development Group was convened in December 2010, chaired by Dr Jennifer Armstrong (Senior Medical Officer, Scottish Government). Membership of this group included clinical representatives drawn from the three regional cancer networks, Healthcare Improvement Scotland (formerly NHS Quality Improvement Scotland), Information Services Division (ISD) and patient/carer representatives. Membership of the development group can be found in appendix 2.
3. QPI Formal Review Process

As part of the National Cancer Quality Programme a systematic national review process has been developed, whereby all tumour specific QPIs published are subject to formal review following 3 years analysis of comparative QPI data.

Formal review of the Breast Cancer QPIs was undertaken for the first time in December 2015. A Formal Review Group was convened, chaired by Dr Hilary Dobson (Chair, National Cancer Quality Steering Group). Membership of this group included Clinical Leads from the three Regional Cancer Networks and can be found in appendix 3.

The 2nd cycle of formal review commenced in December 2018 following reporting of 6 years QPI data. This review is more selective and focussed on ensuring the ongoing clinical relevance of the QPIs. A Formal Review Group was convened, with Mr Seamus Teahan, Consultant Urological Surgeon and Regional Lead Cancer Clinician, WoSCAN appointed as Clinical Advisor/Chair to the group. Membership of this group can be found in appendix 4.

The formal review process is clinically driven with proposals for change sought from specialty specific representatives in each of the Regional Cancer Networks. Formal review meetings to further discuss proposals are arranged where deemed necessary. The review builds on existing evidence using expert clinical opinion to identify where new evidence is available, and a full public engagement exercise will take place where significant revisions have been made or new QPIs developed.

During formal review QPIs may be archived and replaced with new QPIs. Triggers for doing so include significant change to clinical practice, targets being consistently met by all Boards, and publication of new evidence. Where QPIs have been archived, for those indicators which remain clinically relevant, data will continue to be collected to allow local / regional analysis of performance as required.

Any new QPIs have been developed in line with the following criteria:

- **Overall importance** – does the indicator address an area of clinical importance that would significantly impact on the quality and outcome of care delivered?
- **Evidence based** – is the indicator based on high quality clinical evidence?
- **Measurability** – is the indicator measurable i.e. are there explicit requirements for data measurement and are the required data items accessible and available for collection?

The revised Breast Cancer QPIs were made available on the Scottish Government Consultation Hub in May / June 2019, as part of a wide clinical and public engagement exercise. During the engagement period, clinical and management colleagues from across NHSScotland, patients affected by breast cancer and the wider public were given the opportunity to influence the revised Breast Cancer QPIs.

Following the engagement period, all comments and responses received were reviewed by the Breast Cancer QPI Formal Review Group and used to produce and refine the final indicators (section 6).
4. Format of the 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 which will be utilised in reports 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; these highlight how the indicator will actually be measured in practice to allow for comparison across NHSScotland.

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

In order to ensure that the chosen target levels are the most appropriate and drive continuous quality improvement as intended they are kept under review and revised as necessary, if further evidence or data becomes available.

Rather than utilising multiple exclusions, a tolerance level has been built into the QPIs. It is very difficult to accurately measure patient choice, co-morbidities and patient fitness therefore target levels have been set to account for these factors. Further detail is noted within QPIs where there are other factors which influenced the target level.

Where ‘less than’ (<) target levels have been set the rationale has been detailed within the relevant QPI. All other target levels should be interpreted as ‘greater than’ (>l) levels.

5. Supporting Documentation

A national minimum core dataset and a measurability specification document have been developed in parallel with the indicators to support the monitoring and reporting of Breast Cancer QPIs. These will be implemented for all patients diagnosed with breast cancer on, or after, 1st January 2019.
6. Quality Performance Indicators for Breast Cancer

QPI 6: Immediate Reconstruction Rate

<table>
<thead>
<tr>
<th>QPI Title:</th>
<th>Patients undergoing mastectomy for breast cancer should have access to timely immediate breast reconstruction.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Proportion of patients who undergo immediate breast reconstruction at the time of mastectomy for breast cancer, and within 6 weeks of treatment decision. Please note: The specifications of this QPI measure two distinct elements: (i) Patients with breast cancer undergoing immediate breast reconstruction at the time of mastectomy; and (ii) Patients with breast cancer undergoing immediate breast reconstruction at the time of mastectomy, and within 6 weeks of treatment decision.</td>
</tr>
<tr>
<td>Rationale and Evidence:</td>
<td>Evidence suggests that breast reconstruction is not associated with an increase in the rate of local recurrence, nor does it affect the ability to detect recurrence, and it can yield psychological benefit. There may be good reasons for individual patients not to undergo immediate breast reconstruction but this indicator is intended to demonstrate that mastectomy patients have access to a reconstructive service. Access to immediate breast reconstruction is very difficult to measure accurately therefore uptake is utilised within this QPI as a proxy for access. Although it will not provide an absolute measure of patient access to this procedure it will give an indication of access across NHS Boards and highlight any areas of variance which can then be further examined. Timeliness of immediate breast reconstruction is being reviewed as part of this QPI to ensure that there is no impact on quality of care for patients undergoing this treatment option.</td>
</tr>
<tr>
<td>Specification (i):</td>
<td>Numerator: Number of patients with breast cancer undergoing immediate breast reconstruction at the time of mastectomy. Denominator: All patients with breast cancer undergoing mastectomy. Exclusions: • All patients with M1 disease. • All male patients.</td>
</tr>
<tr>
<td>Target:</td>
<td>20% The tolerance within this target accounts for patient choice and fitness for treatment. Patient choice is a key factor in the number of patients who undergo immediate breast reconstruction at the time of mastectomy.</td>
</tr>
</tbody>
</table>

† This is the date where mastectomy is agreed as the treatment option by consultation between the patient and the breast surgeon.
QPI 6: Immediate Reconstruction Rate ............... continued

<table>
<thead>
<tr>
<th>Specification (ii):</th>
<th>Numerator:</th>
<th>Number of patients with breast cancer undergoing immediate breast reconstruction at the time of mastectomy within 6 weeks of treatment decision.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Denominator:</td>
<td>All patients with breast cancer undergoing immediate reconstruction at the time of mastectomy.</td>
</tr>
<tr>
<td></td>
<td>Exclusions:</td>
<td>- All patients with M1 disease(^{‡}).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- All male patients.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Patients who undergo neoadjuvant chemotherapy.</td>
</tr>
<tr>
<td>Target:</td>
<td>90%</td>
<td>The tolerance within this target is designed to account for situations where immediate breast reconstruction may be delayed due to factors patient choice and fitness for treatment.</td>
</tr>
</tbody>
</table>

\(^{‡}\) The exclusion of patients with M1 disease is not intended to imply that mastectomy and immediate reconstruction is not a valid treatment option for patients with metastatic disease. All patients are discussed on an individual basis to determine the most appropriate treatment.
### QPI 8: Minimising Hospital Stay

<table>
<thead>
<tr>
<th>QPI Title:</th>
<th>Patients should have the opportunity for day case / &quot;23 hour** breast surgery wherever appropriate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Proportion of patients undergoing day case / 23 hour surgery for breast cancer. Please note: This QPI measures two distinct elements. (i) Patients with breast cancer undergoing wide excision and / or an axillary sampling procedure as day case surgery; and (ii) Patients with breast cancer undergoing mastectomy (without reconstruction) with a maximum hospital stay of 1 night following their procedure.</td>
</tr>
<tr>
<td>Rationale and Evidence:</td>
<td>It has been shown that major breast surgery can be delivered safely as day case or one night stay in the majority of patients without compromising clinical quality, surgical outcomes, and patient experience*. Benefits of short stay following surgery include: reduction in re-admissions, reduction in complications, improved patient mobility and enhanced recovery5. **Within the measurement of this QPI, day case surgery is defined as those patients who are admitted and discharged on the same day as their procedure. 23 hour surgery is defined as surgery which includes a maximum of one night stay following their procedure.</td>
</tr>
<tr>
<td>Specification (i):</td>
<td><strong>Numerator:</strong> Number of patients with breast cancer undergoing wide excision and/or axillary sampling procedure (sentinel node biopsy or 4 node sample) as day case surgery. <strong>Denominator:</strong> All patients with breast cancer undergoing wide excision and/or axillary sampling procedure (sentinel node biopsy or 4 node sample). <strong>Exclusions:</strong> • All patients with breast cancer undergoing partial breast reconstruction/mammoplasty.</td>
</tr>
<tr>
<td>Specification (ii):</td>
<td><strong>Numerator:</strong> Number of patients with breast cancer undergoing mastectomy (without reconstruction) with a maximum hospital stay of 1 night following their procedure. <strong>Denominator:</strong> All patients with breast cancer undergoing mastectomy (without reconstruction). <strong>Exclusions:</strong> • No exclusions</td>
</tr>
</tbody>
</table>

(continued overleaf)
QPI 8: Minimising Hospital Stay – Day Case / 23 hour Breast Surgery….continued

<table>
<thead>
<tr>
<th>Target:</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>The tolerance within this target takes account of the fact that day case surgery may not be appropriate for all patients due to social circumstances, co-morbidities and/or the geographical area in which they live. It may not always be safe or practical for patients to go home immediately after surgery; this may therefore affect short-stay surgery rates across NHSScotland.</td>
<td></td>
</tr>
</tbody>
</table>

Please note:
SMR01 data will be utilised to support reporting and monitoring of this QPI rather than clinical audit. This will maximise the use of data which are already collected and remove the need for any duplication of data collection. Standard reports will be specified and direct access given for each Board to run these reports to ensure nationally consistent analysis and reporting.
### QPI 9: HER2 Status for Decision Making

<table>
<thead>
<tr>
<th>QPI Title:</th>
<th>HER2 status should be available to inform treatment decision making.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Proportion of patients with invasive breast cancer for whom the HER2 status (as detected by immunohistochemistry (IHC) and/or FISH analysis) is reported within 2 weeks of core biopsy.</td>
</tr>
<tr>
<td>Rationale and Evidence:</td>
<td>HER2 status has a significant impact on survival and so has a significant influence on decisions on neoadjuvant and adjuvant treatment. Delay in the availability of a HER2 result may lead to a delay in appropriate neoadjuvant or adjuvant therapy and make communication of a clear plan to the patient more difficult. At present HER2 testing is undertaken in all relevant cases; however the point of the patient pathway at which this takes place varies across NHS Scotland. The purpose of this indicator is to synchronise practice across Scotland by ensuring the availability of HER2 status in a timely manner to inform treatment decision making.</td>
</tr>
</tbody>
</table>
| Specifications: | **Numerator:** Number of patients with invasive breast cancer for whom the HER2 status (as detected by immunohistochemistry (IHC) and/or FISH analysis) is reported within 2 weeks of core biopsy.  
**Denominator:** All patients with invasive breast cancer.  
**Exclusions:** • Patients in whom no invasive carcinoma is present on core biopsy. |
| Target: | 90%  
The tolerance within this target is designed to account for situations where insufficient disease is present on core biopsy.  
**Please note:** Varying evidence exists regarding the most appropriate target level; therefore this may need redefined in the future, to take account of new evidence or when baseline data becomes available. |
**QPI 10: Radiotherapy for Breast Conservation in Older Adults**

<table>
<thead>
<tr>
<th>QPI Title:</th>
<th>Radiotherapy use should be reduced in patients ≥ 70 years of age with early stage breast cancer and a low risk of recurrence.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Proportion of patients ≥ 70 years of age with T1 N0, ER-positive, HER2-negative, LVI negative, Grade I to II breast cancers undergoing conservation surgery (completely excised with margin ≥1mm) with hormone therapy who receive radiotherapy.</td>
</tr>
<tr>
<td>Rationale and Evidence:</td>
<td>Measurement of this QPI reflects those early stage low risk patients identified within the PRIME II and CALGB 934 Breast Cancer Trials. Omission of radiotherapy may be considered given the minimal survival benefit gained in relation to the risk of toxicity and complications. Studies have shown that in patients greater than 70 years of age with early stage low risk breast cancer, the omission of radiotherapy does not impact on distant recurrence or overall survival. There is a small reduction in local recurrence with the use of radiotherapy which should be taken into account when making decisions on treatment. Treatment should not be selected solely according to age and decisions on appropriate treatment must take into account individual patient risk and quality of life.</td>
</tr>
<tr>
<td>Specifications:</td>
<td><strong>Numerator:</strong> Number of patients ≥ 70 years with T1 N0, ER-positive, HER2-negative, LVI negative, Grade I to II breast cancers undergoing conservation surgery (completely excised with margin ≥1mm) with hormone therapy who receive radiotherapy. <strong>Denominator:</strong> All patients ≥ 70 years with T1 N0, ER-positive, HER2-negative, LVI negative, Grade I to II breast cancers undergoing conservation surgery (completely excised with margin ≥1mm) with hormone therapy. <strong>Exclusions:</strong> All patients with breast cancer taking part in clinical trials of radiotherapy treatment.</td>
</tr>
<tr>
<td>Target:</td>
<td>&lt;40%</td>
</tr>
</tbody>
</table>

This QPI is measuring the proportion of patients in the specific subgroup described who receive radiotherapy, therefore a ‘less than’ target level has been set. The target reflects the fact that patients may choose radiotherapy as a treatment option.
**QPI 11: Adjuvant Chemotherapy**

<table>
<thead>
<tr>
<th>QPI Title:</th>
<th>Patients with breast cancer should receive chemotherapy post operatively where it will provide a survival benefit for patients.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Proportion of patients with invasive breast cancer who have a &gt;5% overall survival benefit of chemotherapy treatment predicted at 10 years that undergo adjuvant chemotherapy.</td>
</tr>
</tbody>
</table>

**Please note:** This QPI measures two distinct elements.

1. Patients with hormone receptor (ER plus/minus PR) positive, HER2 negative breast cancer with a >5% overall survival benefit of chemotherapy treatment predicted at 10 years and/or high risk genomic assay score.
2. Patients with triple negative (ER negative, PR negative, HER2 negative) or HER2 positive breast cancer with >5% overall survival benefit of chemotherapy treatment predicted at 10 years.

**Rationale and Evidence:**

Large randomised trials have confirmed that adjuvant systemic therapy improves relapse-free survival and overall survival\(^9\). Clinical trials have demonstrated that adjuvant drug treatments substantially reduce 5-year recurrence rates and 15-year mortality rates\(^1\). Success of treatment is based on a number of different factors including tumour size, grade and involvement of lymph nodes. Prognostic tools such as PREDICT assist clinicians and patients to make informed decisions on appropriate treatment by predicting survival and determining those patients likely to benefit from adjuvant treatment\(^12,13\).

**Specification (i):**

**Numerator:** Number of patients with hormone receptor (ER plus/minus PR) positive, HER2 negative breast cancer who have a >5% overall survival benefit of chemotherapy treatment predicted at 10 years and/or high risk genomic assay score that undergo adjuvant chemotherapy.

**Denominator:** All patients with hormone receptor (ER plus/minus PR) positive, HER2 negative breast cancer who have a >5% overall survival benefit of chemotherapy treatment predicted at 10 years and/or high risk genomic assay score.

**Exclusions:**

- All patients with breast cancer taking part in trials of chemotherapy treatment.
- All patients with breast cancer who have had neoadjuvant chemotherapy.
- All patients with M1 disease.

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\(^9\) The validated tool PREDICT (version 2.1) should be used to calculate predicted benefit of adjuvant chemotherapy. Third generation chemotherapy should be selected as default for consistency.

\(^1\) At the time of publication, Oncotype Dx is the only genomic test widely available for use within NHSScotland for breast cancer.
**QPI 11: Adjuvant Chemotherapy.............continued**

<table>
<thead>
<tr>
<th>Specification (ii):</th>
<th>Numerator: Number of patients with triple negative or HER2 positive breast cancer who have a &gt;5% overall survival benefit of chemotherapy treatment predicted at 10 years that undergo adjuvant chemotherapy.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Denominator: All patients with triple negative or HER2 positive breast cancer who have a &gt;5% overall survival benefit of chemotherapy treatment predicted at 10 years.</td>
</tr>
</tbody>
</table>
| Exclusions:         | • All patients with breast cancer taking part in trials of chemotherapy treatment.  
|                     | • All patients with breast cancer who have had neoadjuvant chemotherapy.  
|                     | • All patients with M1 disease. |
| Target:             | 80%  
|                     | The tolerance within this target accounts for factors of patient choice, co-morbidities and fitness for treatment.  
|                     | Please note: Varying evidence exists regarding the most appropriate target level; therefore this may need redefined in the future, to take account of new evidence or when further data becomes available. |
## QPI 13: Re-excision Rates

<table>
<thead>
<tr>
<th>QPI Title:</th>
<th>Patients undergoing surgery for breast cancer should only undergo one definitive operation where possible.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Proportion of surgically treated patients with breast cancer (invasive or in situ) who undergo re-excision or mastectomy following their initial breast surgery.</td>
</tr>
<tr>
<td>Rationale and Evidence:</td>
<td>It is important to minimise treatment related morbidity. Patients undergoing additional surgical procedures can be subject to unnecessary stress, as well as potential complications and delays in recovery(^{14}). Re-operation is also a factor related to poorer cosmetic outcomes for patients(^{15}).</td>
</tr>
<tr>
<td>Specifications: Numerator:</td>
<td>Number of patients with breast cancer (invasive or in situ) having breast conservation surgery who undergo re-excision or mastectomy following initial breast surgery.</td>
</tr>
<tr>
<td>Denominator:</td>
<td>All patients with breast (invasive or in situ) cancer having breast conservation surgery as their initial or only breast surgery.</td>
</tr>
<tr>
<td>Exclusions:</td>
<td>• LCIS alone</td>
</tr>
<tr>
<td>Target:</td>
<td>&lt;20%</td>
</tr>
</tbody>
</table>

This QPI is measuring the proportion of patients who undergo more than one surgical procedure to achieve clear margins, a ‘less than’ target level has therefore been set.

**Please note:** Varying evidence exists regarding the most appropriate target level; therefore this may need redefined in the future, to take account of new evidence or when further data becomes available.
QPI 14: Referral for Genetics Testing

<table>
<thead>
<tr>
<th>QPI Title:</th>
<th>Patients with breast cancer should be offered referral to a specialist genetics clinic where appropriate.</th>
</tr>
</thead>
</table>
| Description: | Proportion of patients with breast cancer who meet the following criteria for gene testing and are referred to a specialist genetics clinic:  

**Please note:** This QPI measures 2 distinct elements.

(i) Patients with breast cancer who are under 30 years of age; and  
(ii) Patients with triple negative** breast cancer who are under 50 years of age. |
| Rationale and Evidence: | Where patients have breast cancer, genetic testing should be offered if their combined BRCA1 and BRCA2 mutation carrier probability is ≥10%\(^{16}\).  

Various prediction models exist to assess the likelihood of a BRCA1 or BRCA2 mutation in a family. All patients with triple negative breast cancer who are under 50 years of age would be predicted to have ≥10% probability of a BRCA1 or BRCA2 mutation and should be offered genetic testing\(^{17,18}\). Breast cancer in patients under 30 years of age also increases the likelihood of a BRCA1/BRCA2 or p53 mutation.  

Some patients may choose not to be seen at Genetics Services following referral. The measurement of this QPI therefore focuses on whether the appropriate patients are being referred to ensure equitable access to the service.  

It is difficult to accurately capture data for all eligibility criteria for gene testing within current systems, therefore measurement of this QPI will focus on patients under 30 years of age and patients under 50 years of age with triple negative breast cancer. This has been reviewed in line with the recent evidence. |
| Specification (i): | **Numerator:** Number of patients with breast cancer under 30 years of age referred to a specialist clinic for genetic testing.  
**Denominator:** All patients with breast cancer who are under 30 years of age.  
**Exclusions:**  
- No exclusions |
| Specification (ii): | **Numerator:** Number of patients with triple negative breast cancer under 50 years of age referred to a specialist clinic for genetic testing.  
**Denominator:** All patients with triple negative breast cancer who are under 50 years of age.  
**Exclusions:**  
- No exclusions |
| Target: | 90%  
The target tolerance level accounts for patients who refuse referral. |
QPI 15: 30 Day Mortality following Systemic Anti-Cancer Therapy (SACT)

<table>
<thead>
<tr>
<th>QPI Title:</th>
<th>30 day mortality following Systemic Anti-Cancer Therapy (SACT) treatment for breast cancer.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Proportion of patients with breast cancer who die within 30 days of SACT treatment.</td>
</tr>
<tr>
<td>Rationale and Evidence:</td>
<td>Treatment related mortality is a marker of the quality and safety of the whole service provided by the Multi Disciplinary Team (MDT)(^{10}). Outcomes of treatment, including treatment related morbidity and mortality should be regularly assessed. Treatment should only be undertaken in individuals that may benefit from that treatment. This QPI is intended to ensure treatment is given appropriately, and the outcome reported on and reviewed.</td>
</tr>
<tr>
<td>Specifications:</td>
<td><strong>Numerator:</strong> Number of patients with breast cancer who undergo SACT that die within 30 days of treatment. <strong>Denominator:</strong> All patients with breast cancer who undergo SACT. <strong>Exclusions:</strong> • No exclusions <strong>Please note:</strong> This indicator will be reported separately for neoadjuvant, adjuvant and palliative chemotherapy, as opposed to one single figure.</td>
</tr>
<tr>
<td>Target:</td>
<td>Neoadjuvant and adjuvant treatment &lt;1% Palliative treatment &lt;5%</td>
</tr>
</tbody>
</table>

**Please note:**
Data from Chemocare (electronic chemotherapy prescribing system) will be utilised to support reporting and monitoring of this QPI rather than clinical audit. This will maximise the use of data which are already collected and provide a more accurate report of all patients with breast cancer undergoing chemotherapy. Standard reports will be specified to ensure nationally consistent analysis and reporting.
**QPI 16: Clinical Trial and Research Study Access**

<table>
<thead>
<tr>
<th>QPI Title:</th>
<th>All patients should be considered for participation in available clinical trials / research studies, wherever eligible.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Proportion of patients diagnosed with breast cancer who are consented(^\dagger\dagger) for a clinical trial / research study.</td>
</tr>
<tr>
<td>Rationale and Evidence:</td>
<td>Clinical trials are necessary to demonstrate the efficacy of new therapies and other interventions(^5). Evidence suggests improved patient outcomes when hospitals are actively recruiting patients into clinical trials(^1). Clinicians are therefore encouraged to enter patients into well-designed trials and to collect longer-term follow-up data. High accrual activity into clinical trials is used as a goal of an exemplary clinical research site. The measurement of this QPI focuses on those patients who have consented in order to reflect the intent to join a clinical trial and demonstrate the commitment to recruit patients. Often patients can be prevented from enrolling within a trial due to stratification of studies and precise inclusion criteria identified during the screening process.</td>
</tr>
<tr>
<td>Specifications:</td>
<td>Numerator: Number of patients diagnosed with breast cancer consented for a clinical trial / research study. Denominator: All patients diagnosed with breast cancer. Exclusions: • No exclusions.</td>
</tr>
<tr>
<td>Target:</td>
<td>15%</td>
</tr>
</tbody>
</table>

**Please note:**

The Clinical Trials and Research Study Access QPI is measured utilising SCRN data and ISD incidence data, as is the methodology currently utilised by the Chief Scientist Office (CSO) and NCRI. The principal benefit of this approach is that this data is already collected utilising a robust mechanism.

Utilising SCRN data allows for comparison with CSO published data and ensures capture of all eligible clinical trials and research studies, not solely first line treatment trials, as contained in the clinical audit data. Given that a significant proportion of clinical trials and research studies are for relapsed disease this is felt to be particularly important in driving quality improvement. This methodology utilises incidence as a proxy for all patients with cancer. This may slightly over, or underestmate, performance levels, however this is an established approach currently utilised by NHSScotland.

For further details of definitions, inclusion criteria and methodology used, please see the full Clinical Trials and Research Study Access QPI. This can be found at:

[Healthcare Improvement Scotland - Cancer Quality Performance Indicators](#)

\(^\dagger\dagger\) Consented is defined as patients who have given consent to participate in a clinical trial / research study subject to study specific screening for eligibility.
### QPI 17: Genomic Testing

<table>
<thead>
<tr>
<th><strong>QPI Title:</strong></th>
<th>Patients with breast cancer should be offered genomic testing where appropriate.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Proportion of patients with ER positive, HER2 negative, node negative breast cancer who have a 3-5% overall survival benefit of chemotherapy treatment predicted at 10 years that undergo genomic testing.</td>
</tr>
<tr>
<td><strong>Rationale and Evidence:</strong></td>
<td>Gene expression profiling tests can provide an indication of how the disease may progress and therefore assist in treatment planning in relation to chemotherapy. Tests such as EndoPredict, Oncotype DX Breast Recurrence Score and Prosigna are recommended for guiding adjuvant chemotherapy decisions for people with ER-positive, HER2-negative and lymph node-negative early breast cancer. Validated tools such as PREDICT or The Nottingham Prognostic Index should also be used to determine if a patient is at intermediate risk of distant recurrence.</td>
</tr>
</tbody>
</table>
| **Specifications:** | **Numerator:** Number of patients with ER positive, HER2 negative, node negative breast cancer who have a 3-5% overall survival benefit of chemotherapy treatment predicted at 10 years that undergo genomic testing.  
**Denominator:** All patients with ER positive, HER2 negative, node negative breast cancer who have a 3-5% overall survival benefit of chemotherapy treatment predicted at 10 years.  
**Exclusions:**  
- Patients with breast cancer taking part in clinical trials of chemotherapy treatment.  
- Patients who undergo neoadjuvant therapy. |
| **Target:** | 60%  
The tolerance within this target accounts for factors of patient choice and fitness for treatment. |

**‡‡** Details of the genomic assay tests that are currently measured within this QPI are outlined within the associated measurability document. At the time of publication, Oncotype DX is the only genomic test widely available for use within NHSScotland for early breast cancer.

**§§** The validated tool PREDICT (version 2.1) should be used to calculate predicted benefit of adjuvant chemotherapy. Third generation chemotherapy should be selected as default for consistency.
## QPI 18: Neoadjuvant Chemotherapy

<table>
<thead>
<tr>
<th>QPI Title:</th>
<th>Patients with breast cancer who receive chemotherapy should be offered neoadjuvant chemotherapy with the aim of achieving pathological complete response where appropriate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Proportion of patients with triple negative (ER / PR / HER2 negative) or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy that undergo neoadjuvant chemotherapy with the aim of achieving pathological complete response. Please note: This QPI measures 2 distinct elements.</td>
</tr>
</tbody>
</table>

(i) Patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy that undergo neoadjuvant chemotherapy; and

(ii) Patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who undergo neoadjuvant chemotherapy who achieve a pathological complete response. |
| Rationale and Evidence: | Pathological complete response is used as an endpoint to predict clinical benefit and survival. Those patients who achieve pathological complete response (defined as ypT0 ypN0) demonstrate improved survival with the greatest benefit shown in aggressive tumour subtypes. Evidence has shown that pathologic response to neoadjuvant chemo is prognostic in HER2 positive and triple negative breast cancers. |
| Specification (i): | **Numerator:** Number of patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy that undergo neoadjuvant chemotherapy. **Denominator:** All patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy. **Exclusions:** Patients who undergo palliative chemotherapy. **Target:** 80% The tolerance within this target is designed to account for factors of patient choice in relation to treatment decisions for neo-adjuvant chemotherapy as well as patient fitness. |
| Specification (ii): | **Numerator:** Number of patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who undergo neoadjuvant chemotherapy who achieve a pathological complete response. **Denominator:** All patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who undergo neoadjuvant chemotherapy. **Exclusions:** None **Target:** 30% The tolerance within this target is designed to account for the fact that due to tumour variations, not all patients will achieve a pathological complete response.
### QPI 19: Deep Inspiratory Breath Hold (DIBH) Radiotherapy

<table>
<thead>
<tr>
<th><strong>QPI Title:</strong></th>
<th>Patients with left sided breast cancer or DCIS undergoing adjuvant radiotherapy treatment should use a deep inspiratory breath hold (DIBH) radiotherapy technique.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Proportion of patients with left sided breast cancer or DCIS receiving adjuvant radiotherapy treatment who use a DIBH radiotherapy technique.</td>
</tr>
<tr>
<td><strong>Rationale and Evidence:</strong></td>
<td>Left sided breast radiotherapy increases the risk of cardiac morbidity. Excluding the heart from the radiotherapy field minimises the radiation dose to the heart and therefore reduces the risk of longer term cardiac side effects(^{18}). Evidence has shown that the use of deep inspiratory breath-hold (DIBH) technique during breast radiotherapy leads to a significant reduction in cardiac side effects without compromising the target coverage. This has been shown to lead to a reduction in future cardiovascular morbidity and mortality(^{18,23}).</td>
</tr>
<tr>
<td><strong>Specifications:</strong></td>
<td><strong>Numerator:</strong> Number of patients with left sided breast cancer or DCIS receiving adjuvant radiotherapy treatment who use a DIBH radiotherapy technique. <strong>Denominator:</strong> All patients with left sided breast cancer or DCIS receiving adjuvant radiotherapy treatment. <strong>Exclusions:</strong> • No exclusions.</td>
</tr>
<tr>
<td><strong>Target:</strong></td>
<td>80% The tolerance within this target level accounts for the fact that due to co-morbidities and fitness levels, not all patients will be suitable for DIBH radiotherapy.</td>
</tr>
</tbody>
</table>
7. Survival

Improving survival forms an integral part of the national cancer quality improvement programme. Breast cancer survival analysis will be reported and analysed on a 3 yearly basis by Information Services Division (ISD). The specific issues which will be addressed will be identified by an expert group ahead of any analysis being undertaken, as per the agreed national cancer quality governance and improvement framework. The Breast Cancer QPI Group has identified the following issues for survival analysis:

- 5 and 10 year overall survival

To ensure consistent application of survival analysis, it has been agreed that a single analyst on behalf of all three regional cancer networks undertakes this work. Survival analysis is scheduled as per the national survival analysis and reporting timetable, agreed with the National Cancer Quality Steering Group and Scottish Cancer Taskforce. This reflects the requirement for record linkage and the more technical requirements of survival analyses which makes it difficult for individual Boards to undertake routinely and in a nationally consistent manner.

8. Areas for Future Consideration

The Breast Cancer QPI Groups have not been able to identify sufficient evidence, or determine appropriate measurability specifications, to address all areas felt to be of key importance in the treatment of breast cancer, and therefore in improving the quality of care for patients affected by breast cancer.

The following areas for future consideration have been raised across the lifetime of the Breast Cancer QPIs:

- Management of the axilla
- Secondary breast cancer and recurrence
- Neoadjuvant Endocrine Therapy
- Partial Breast Radiotherapy
- Radiotherapy management of regional lymph nodes (including internal mammary lymph nodes)

9. Governance and Scrutiny

A national and regional governance framework to assure the quality of cancer services in NHSScotland has been developed; key roles and responsibilities within this are set out below. Appendices 6 and 7 provide an overview of these governance arrangements diagrammatically. The importance of ensuring robust local governance processes are in place are recognised and it is essential that NHS Boards ensure that cancer clinical audit is fully embedded within established processes.

9.1 National

- Scottish Cancer Taskforce
  - Accountable for overall national cancer quality programme and overseeing the quality of cancer care across NHS Scotland.

- Healthcare Improvement Scotland
  - Proportionate scrutiny of performance.
- Support performance improvement.
- Quality assurance: ensure robust action plans are in place and being progressed via regions/Boards to address any issues identified.

- Information Services Division (ISD)
  - Publish national comparative report on tumour-specific QPIs and survival for approximately 3 tumour types per annum as part of the rolling programme of reporting.

### 9.2 Regional – Regional Cancer Networks

- Annual regional comparative analysis and reporting against tumour-specific QPIs.
- Support national comparative reporting of specified generic QPIs.
- Identification of regional and local actions required and development of an action plan to address regional issues identified.
- Performance review and monitoring of progress against agreed actions.
- Provide assurance to Board Chief Executive Officers that any issues identified have been adequately and timeously progressed.

### 9.3 Local – NHS Boards

- Collect and submit data for regional comparative analysis and reporting in line with agreed measurability and reporting schedule (generic and tumour-specific QPIs).
- Utilise local governance structures to review performance, develop local action plans and monitor delivery.
- Demonstrate continual improvements in quality of care through on-going review, analysis and feedback of clinical audit data at an individual MDT or unit level.
10. References


4. NHS Improvement (2011): Delivering major breast surgery safely as a day case or one night stay (excluding reconstruction) (accessed April 2019).


8. Tamoxifen with radiotherapy compared with Tamoxifen alone in elderly women with early-stage breast cancer treated with breast conserving surgery: A systematic review and meta-analysis (accessed April 2019)


11. Appendices

Appendix 1: QPI Development Process

Preparatory Work and Scoping

NHS Quality Improvement Scotland (formerly Clinical Standards Board for Scotland) Clinical Standards for Breast Cancer have been utilised nationally since 2001. It was therefore agreed that rather than undertake a lengthy QPI development process the extensive literature search and clinical discussion undertaken in the review of NHS Quality Improvement Scotland (NHSQIS) breast standards (in 2008) was used as the basis for QPI development.

The preparatory work involved the development group members independently reviewing and assessing the existing NHS QIS Breast Cancer Standards against agreed criteria and identifying any potential gaps where they considered a need to develop new outcome focussed quality indicators. Responses were then collated and the output of this exercise used to inform development group discussions.

Indicator Development

The Breast Cancer QPI Development Group defined evidence based, measurable indicators with a clear focus on improving the quality and outcome of care provided.

The Group developed QPIs using the existing NHS QIS clinical standards as a base. Draft QPIs were then assessed by the Breast Cancer QPI Development Group against three criteria:

- **Overall importance** – does the indicator address an area of clinical importance that would significantly impact on the quality and outcome of care delivered?
- **Evidence based** – is the indicator based on high quality clinical evidence?
- **Measurability** – is the indicator measurable i.e. are there explicit requirements for data measurement and are the required data items accessible and available for collection?

Engagement Process

A wide clinical and public engagement exercise was undertaken as part of development in 2011 where the Breast Cancer QPIs, along with accompanying draft minimum core dataset and measurability specifications, were made available on the Scottish Government website.

During the engagement period clinical and management colleagues from across NHSScotland, patients affected by breast cancer and the wider public were given the opportunity to influence the development of Breast Cancer QPIs. Several different methods of engagement were utilised:

Professional groups, health service staff, voluntary organisations and individuals:

- Wide circulation of the draft documentation for comment and feedback.

Patient representative groups:

- Organised patient focus group sessions were held in conjunction with Cancer Support Scotland (Tak Tent) and Breakthrough Breast Cancer.

Following the engagement period all comments and responses received were reviewed by the Breast Cancer QPI Development Group and used to produce and refine the final indicators.
### Appendix 2: Breast Cancer QPI Development Group Membership (2012)

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
<th>Cancer Network/Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer Armstrong</td>
<td>Senior Medical Officer (CHAIR)</td>
<td>Scottish Government</td>
</tr>
<tr>
<td>Ruth Adamson</td>
<td>Consultant Pathologist (Clinical Lead – Subgroup 1)</td>
<td>WoSCAN (Crosshouse Hospital, Kilmarnock)</td>
</tr>
<tr>
<td>Matthew Barber</td>
<td>Consultant Surgeon (Clinical Lead – Subgroup 2)</td>
<td>SCAN (Western General Hospital, Edinburgh)</td>
</tr>
<tr>
<td>Sophie Barrett</td>
<td>Consultant Oncologist</td>
<td>WoSCAN (Beatson West of Scotland Cancer Centre)</td>
</tr>
<tr>
<td>Carolyn Bedi</td>
<td>Consultant Oncologist</td>
<td>SCAN (Western General Hospital, Edinburgh)</td>
</tr>
<tr>
<td>Emma Bennett</td>
<td>Lead Breast Care Nurse Specialist</td>
<td>SCAN (Western General Hospital, Edinburgh)</td>
</tr>
<tr>
<td>Janet Clarke</td>
<td>Consultant Radiographer</td>
<td>SCAN (Western General Hospital, Edinburgh)</td>
</tr>
<tr>
<td>John Dewar</td>
<td>Consultant Oncologist (Clinical Lead – Subgroup 3)</td>
<td>NOSCAN (Ninewells Hospital, Dundee)</td>
</tr>
<tr>
<td>Heather Deans</td>
<td>Consultant Radiologist</td>
<td>NOSCAN (Aberdeen Royal Infirmary, Aberdeen)</td>
</tr>
<tr>
<td>Hilary Dobson</td>
<td>Clinical Director (Clinical Lead – Subgroup 1)</td>
<td>WoSCAN (WoS Breast Screening Service, Glasgow)</td>
</tr>
<tr>
<td>Christine Dodds</td>
<td>Senior Cancer Audit Facilitator</td>
<td>SCAN (Western General Hospital, Edinburgh)</td>
</tr>
<tr>
<td>Clare Echlin</td>
<td>Acting Head of Standards Development</td>
<td>Healthcare Improvement Scotland</td>
</tr>
<tr>
<td>Steven Heys</td>
<td>Consultant Breast Surgeon</td>
<td>NOSCAN (Aberdeen Royal Infirmary, Aberdeen)</td>
</tr>
<tr>
<td>Alison Lannigan</td>
<td>Consultant Breast Surgeon (Clinical Lead – Subgroup 2)</td>
<td>WoSCAN (Wishaw General Hospital, Lanarkshire)</td>
</tr>
<tr>
<td>Joseph Loane</td>
<td>Consultant Pathologist</td>
<td>SCAN (Western General Hospital, Edinburgh)</td>
</tr>
<tr>
<td>Evelyn Macdonald</td>
<td>Clinical Nurse Specialist</td>
<td>NOSCAN (Raigmore Hospital, Inverness)</td>
</tr>
<tr>
<td>Stella MacPherson</td>
<td>Patient Representative</td>
<td></td>
</tr>
<tr>
<td>Carol Marshall</td>
<td>Information Manager</td>
<td>WoSCAN</td>
</tr>
<tr>
<td>Andy Maylon</td>
<td>Consultant Plastic Surgeon</td>
<td>WoSCAN (Royal Infirmary, Glasgow)</td>
</tr>
<tr>
<td>Pauline McIlroy</td>
<td>Clinical Nurse Specialist</td>
<td>WoSCAN (Beatson West of Scotland Cancer Centre)</td>
</tr>
<tr>
<td>Brian Murray</td>
<td>National Cancer Information Coordinator</td>
<td>Information Services Division</td>
</tr>
<tr>
<td>Colin Purdie</td>
<td>Consultant Pathologist</td>
<td>NOSCAN (Ninewells Hospital, Dundee)</td>
</tr>
<tr>
<td>Iona Scott</td>
<td>Project Manager</td>
<td>WoSCAN</td>
</tr>
<tr>
<td>Name</td>
<td>Designation</td>
<td>Cancer Network/Base</td>
</tr>
<tr>
<td>----------------------</td>
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<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Carole Smith</td>
<td>Patient Representative</td>
<td></td>
</tr>
<tr>
<td>Evelyn Thomson</td>
<td>Regional Manager (Cancer)</td>
<td>WoSCAN</td>
</tr>
<tr>
<td>Eva Weiler-Mithoff</td>
<td>Consultant Plastic Surgeon</td>
<td>WoSCAN (Royal Infirmary, Glasgow)</td>
</tr>
<tr>
<td>Philippa Whitford</td>
<td>Consultant Surgeon</td>
<td>WoSCAN (Crosshouse Hospital, Kilmarnock)</td>
</tr>
</tbody>
</table>

NOSCAN - North of Scotland Cancer Network  
SCAN – South East Scotland Cancer Network  
WoSCAN – West of Scotland Cancer Network

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
<th>Cancer Network/Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hilary Dobson</td>
<td>Chair, National Cancer Quality</td>
<td>WoSCAN</td>
</tr>
<tr>
<td></td>
<td>Steering Group</td>
<td></td>
</tr>
<tr>
<td>Evelyn Thomson</td>
<td>Regional Manager (Cancer)</td>
<td>WoSCAN</td>
</tr>
<tr>
<td>Iona Reid</td>
<td>Clinical Lead Breast Cancer MCN</td>
<td>WoSCAN / NHS Greater Glasgow &amp; Clyde</td>
</tr>
<tr>
<td>Glyn Neades</td>
<td>Clinical Lead Breast Cancer MCN</td>
<td>SCAN / NHS Lothian</td>
</tr>
<tr>
<td>Douglas Brown</td>
<td>Clinical Lead Breast Cancer MCN</td>
<td>NOSCAN / NHS Tayside</td>
</tr>
<tr>
<td>Wilma Jack</td>
<td>Senior Clinical Research Fellow</td>
<td>SCAN / NHS Lothian</td>
</tr>
<tr>
<td>Christine Urquhart</td>
<td>Cancer Audit Manager</td>
<td>NOSCAN</td>
</tr>
<tr>
<td>Iona Scott</td>
<td>Quality &amp; Service Improvement Manager</td>
<td>WoSCAN</td>
</tr>
<tr>
<td>Jen Doherty</td>
<td>National Cancer Quality Programme Co-ordinator</td>
<td>National Cancer Quality Programme</td>
</tr>
</tbody>
</table>

Formal review of the Breast Cancer QPIs has been undertaken in consultation with various other clinical specialties e.g. Oncology and Genetics Services

NOSCAN - North of Scotland Cancer Network
SCAN – South East Scotland Cancer Network
WoSCAN – West of Scotland Cancer Network

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
<th>Cancer Network/Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seamus Teahan (Chair)</td>
<td>Consultant Urological Surgeon and Regional Lead Cancer Clinician</td>
<td>WoSCAN</td>
</tr>
<tr>
<td>Dougal Adamson</td>
<td>Consultant Clinical Oncologist</td>
<td>NCA</td>
</tr>
<tr>
<td>Abdulla Alhasso</td>
<td>Consultant Clinical Oncologist</td>
<td>WoSCAN</td>
</tr>
<tr>
<td>Sharon Armstrong</td>
<td>Consultant Medical Oncologist</td>
<td>NCA</td>
</tr>
<tr>
<td>Matthew Barber</td>
<td>Clinical Lead Breast Cancer MCN</td>
<td>SCAN</td>
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<tr>
<td>Douglas Brown</td>
<td>Clinical Lead Breast Cancer MCN</td>
<td>NCA</td>
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<tr>
<td>Jen Doherty</td>
<td>Project Co-ordinator</td>
<td>National Cancer Quality Programme</td>
</tr>
<tr>
<td>Lisa Fowler</td>
<td>Cancer Support Manager</td>
<td>NCA</td>
</tr>
<tr>
<td>Graeme Lumsden</td>
<td>Consultant Clinical Oncologist</td>
<td>WoSCAN</td>
</tr>
<tr>
<td>Kate MacDonald</td>
<td>Regional Manager (Cancer)</td>
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<tr>
<td>Husam Marashi</td>
<td>Consultant Clinical Oncologist</td>
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<td>Trevor McGoldrick</td>
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<tr>
<td>James Mansell</td>
<td>Clinical Lead Breast Cancer MCN</td>
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<tr>
<td>Lorraine Stirling</td>
<td>Project Officer</td>
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<tr>
<td>Christine Urquhart</td>
<td>Cancer Audit Manager</td>
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</tr>
<tr>
<td>Frances Yuille</td>
<td>Consultant Clinical Oncologist</td>
<td>SCAN</td>
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</tbody>
</table>

Formal review of the Breast Cancer QPIs has been undertaken in consultation with various other clinical specialties e.g. Oncology, Radiotherapy and Genetics Services.

NCA - North Cancer Alliance
SCAN - South East Scotland Cancer Network
WoSCAN - West of Scotland Cancer Network
Appendix 5: 3-Yearly National Governance Process and Improvement Framework for Cancer Care

This process is underpinned by the annual regional reporting and governance framework (see appendix 6).

1. National QPI Development Stage
   - QPIs developed by QPI development groups, which include representation from Regional Cancer Networks, Healthcare Improvement Scotland, ISD, patient representatives and the Cancer Coalition.

2. Data Analysis Stage:
   - NHS Boards and Regional Cancer Advisory Groups (RCAGs)* collect data and analyse on yearly basis using nationally agreed measurability criteria and produce action plans to address areas of variance.
   - Submit yearly reports to ISD for collation and publication every 3 years.
   - ISD produce comparative, publicly available, national report consisting of trend analysis of 3 years data and survival analysis.
   - National comparative report approved by NHS Boards and RCAGs.

3. Expert Review Group Stage (for 3 tumour types per year):
   - Expert group, hosted by Healthcare Improvement Scotland, review comparative national results.
   - Write to RCAGs highlighting areas of good practice and variances.
   - Where required NHS Boards requested to submit improvement plans for any outstanding unresolved issues with timescales for improvement to expert group.
   - Improvement plans ratified by expert group and Scottish Cancer Taskforce.

4. Improvement Support Stage:
   - Where required Healthcare Improvement Scotland provide expertise on improvement methodologies and support.

5. Monitoring Stage:
   - RCAGs work with Boards to progress outstanding actions, monitor improvement plans and submit progress report to Healthcare Improvement Scotland.
   - Healthcare Improvement Scotland report to Scottish Cancer Taskforce as to whether progress is acceptable.

6. Escalation Stage:
   - If progress not acceptable, Healthcare Improvement Scotland will visit the service concerned and work with the RCAG and Board to address issues.
   - Report submitted to Scottish Cancer Taskforce and escalation with a proposal to take forward to Scottish Government Health Department.

*In the South and East of Scotland Cancer Network (SCAN) the Regional Cancer Planning Group is the equivalent group to Regional Cancer Advisory Group (RCAG).
Appendix 6: Regional Annual Governance Process and Improvement Framework for Cancer Care

1. Regional QPI Implementation Stage:
   - National cancer QPIs and associated national minimum core dataset and measurability specifications, developed by QPI development groups.
   - Regional implementation of nationally agreed dataset to enable reporting of QPIs.

2. Data Analysis Stage:
   - NHS Boards collect data and data is analysed on a yearly basis using nationally agreed measurability criteria at local/ regional level.
   - Data/results validated by Boards and annual regional comparative report produced by Regional Networks.
   - Areas of best practice and variance across the region highlighted.
   - Yearly regional reports submitted to ISD for collation and presentation in national report every 3 years.

3. Regional Performance Review Stage:
   - RCAGs* review regional comparative report.
   - Regional or local NHS Board action plans to address areas of variance developed.
   - Appropriate leads identified to progress each action.
   - Action plans ratified by RCAGs.

4. Monitoring Stage:
   - Where required, NHS Boards monitor progress with action plans and submit progress reports to RCAGs.
   - RCAGs review and monitor regional improvement.

5. Improvement Support Stage:
   - Where required Healthcare Improvement Scotland maybe requested to provide expertise to NHS Boards/RCAGs on improvement methodologies and support.

6. Escalation Stage:
   - If progress not acceptable, RCAGs will escalate any issues to relevant Board Chief Executives. If progress remains unacceptable RCAGs will escalate any relevant issues to Healthcare Improvement Scotland.

*In the South and East of Scotland Cancer Network (SCAN) the Regional Cancer Planning Group is the equivalent group to Regional Cancer Advisory Group (RCAG).
### Appendix 7: Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adjuvant therapy / treatment</strong></td>
<td>Treatment given in addition to the primary therapy, or a secondary remedy assisting the action of another.</td>
</tr>
<tr>
<td><strong>Age-standardised</strong></td>
<td>Age-standardisation facilitates comparisons across geographical areas by controlling for differences in the age structure of local populations.</td>
</tr>
<tr>
<td><strong>Axilla</strong></td>
<td>The armpit.</td>
</tr>
<tr>
<td><strong>Axillary clearance</strong></td>
<td>Operation to remove all the lymph glands from under the arm.</td>
</tr>
<tr>
<td><strong>Biopsy</strong></td>
<td>Removal of a sample of tissue from the body to assist in diagnosis of a disease.</td>
</tr>
<tr>
<td><strong>Breast</strong></td>
<td>Glandular organ located on the chest. The breast is made up of connective tissue, fat, and breast tissue that contains the glands that can make milk. Also called mammary gland.</td>
</tr>
<tr>
<td><strong>Cause-specific survival</strong></td>
<td>A method of estimating net survival. Only deaths attributable to the cancer of diagnosis are counted as deaths, giving the probability of survival in the absence of other causes of death.</td>
</tr>
<tr>
<td><strong>Chemotherapy</strong></td>
<td>The use of drugs that kill cancer cells, or prevent or slow their growth.</td>
</tr>
<tr>
<td><strong>Co-morbidity</strong></td>
<td>The condition of having two or more diseases at the same time.</td>
</tr>
<tr>
<td><strong>Conservation surgery</strong></td>
<td>An operation to remove the breast cancer but not the breast itself. Types of breast-conserving surgery include lumpectomy (removal of the lump), quadrantectomy (removal of one quarter, or quadrant, of the breast), and segmental mastectomy (removal of the cancer as well as some of the breast tissue around the tumour and the lining over the chest muscles below the tumour).</td>
</tr>
<tr>
<td><strong>Core biopsy</strong></td>
<td>Removal (using a needle) of a piece of a breast tissue for diagnosis.</td>
</tr>
<tr>
<td><strong>Day case</strong></td>
<td>Day surgery is the admission of selected patients to hospital for a planned surgical procedure, returning home on the same day.</td>
</tr>
<tr>
<td><strong>Deep Inspiratory Breath Hold (DIBH) Radiotherapy</strong></td>
<td>A radiation therapy technique where patients take a deep breath during treatment, and hold this breath for up to 30 seconds while the radiation is delivered. This action inflates the lungs and pushes your heart away from the chest wall and away from the area being treated.</td>
</tr>
<tr>
<td><strong>Definitive procedure/treatment</strong></td>
<td>The treatment plan for a disease or disorder that has been chosen as the best one for a patient after all other choices have been considered.</td>
</tr>
<tr>
<td><strong>Deprivation</strong></td>
<td>Currently, the Scottish Index of Multiple Deprivation (SIMD) is used to estimate an individual’s level of affluence. This is based on seven domains (income, employment, education, housing, health, crime, and geographical access) combined into an overall index.</td>
</tr>
<tr>
<td><strong>Ductal Carcinoma In Situ (DCIS)</strong></td>
<td>When the breast cancer cells are completely contained within the ducts (the channels in the breast that carry milk to the nipple) and have not spread into the surrounding breast tissue.</td>
</tr>
<tr>
<td><strong>Excision Margins</strong></td>
<td>The edge or border of the tissue removed in surgery.</td>
</tr>
<tr>
<td><strong>Fine Needle Aspiration (FNA)</strong></td>
<td>The withdrawal of fluid, containing cells, from the body by means of suction using a fine needle. The samples obtained are used to provide information on the cells of tumours or cysts.</td>
</tr>
<tr>
<td><strong>Fluorescence In Situ Hybridization (FISH)</strong></td>
<td>This is a lab test that measures the amount of a certain gene in cells. It can be used to see if an invasive cancer has too many HER2 genes.</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Genetic</td>
<td>Inherited; having to do with information that is passed from parents to offspring through genes in sperm and egg cells.</td>
</tr>
<tr>
<td>Genomic Testing</td>
<td>A type of medical test that identifies changes in chromosomes, genes, or proteins. The results of a genetic test can confirm or rule out a suspected genetic condition or help determine a person’s chance of developing or passing on a genetic disorder.</td>
</tr>
<tr>
<td>Histological / Histopathological</td>
<td>The study of the structure, composition and function of tissues under the microscope, and their abnormalities.</td>
</tr>
<tr>
<td>Hormonal therapy</td>
<td>Treating a disease with hormones, or by blocking the action of hormones.</td>
</tr>
<tr>
<td>Human Epidermal growth factor Receptor (HER) 2</td>
<td>One of many receptors on the surface of certain cells which can protect the cell from damage or stimulate it to grow. This is the target, present on some breast cancer cells, which is hit by Herceptin (trastuzumab).</td>
</tr>
<tr>
<td>Immediate Breast Reconstruction</td>
<td>Breast reconstruction carried out at the same time as the operation to remove the breast.</td>
</tr>
<tr>
<td>Immunohistochemistry (IHC)</td>
<td>A technique used to identify specific molecules in different kinds of tissue. The tissue is treated with antibodies that bind the specific molecule. These are made visible under a microscope by using a colour reaction, a radioisotope, colloidal gold, or a fluorescent dye. Immunohistochemistry is used to help diagnose diseases, such as cancer, and to detect the presence of micro organisms. It is also used in basic research to understand how cells grow and differentiate (become more specialized).</td>
</tr>
<tr>
<td>In situ</td>
<td>A cancer that is ‘in place’, is non-invasive, has not spread beyond the initial location.</td>
</tr>
<tr>
<td>Invasive</td>
<td>Cancer that can or has spread from its histological original site.</td>
</tr>
<tr>
<td>Lesion</td>
<td>Tumour, mass, or other abnormality.</td>
</tr>
<tr>
<td>Lobular Carcinoma In Situ (LCIS)</td>
<td>A condition in which abnormal cells are found in the lobules of the breast. Lobular carcinoma in situ seldom becomes invasive cancer; however, having it in one breast increases the risk of developing breast cancer in either breast.</td>
</tr>
<tr>
<td>Lymph Nodes</td>
<td>Small bean shaped organs located along the lymphatic system. Nodes filter bacteria or cancer cells that might travel through the lymphatic system.</td>
</tr>
<tr>
<td>Lymphovascular Invasion (LVI)</td>
<td>Movement of cancer cells into the blood vessels or lymphatic system. This can increase the risk of cancer spreading outside the breast.</td>
</tr>
<tr>
<td>Malignant/Malignancy</td>
<td>Cancerous. Malignant cells can invade and destroy nearby tissue and spread to other parts of the body.</td>
</tr>
<tr>
<td>Mastectomy</td>
<td>Surgical removal of a breast.</td>
</tr>
<tr>
<td>Metastases/Metastatic</td>
<td>Spread of cancer away from the primary site to somewhere else via the bloodstream or the lymphatic system.</td>
</tr>
<tr>
<td>Morbidity</td>
<td>How much ill health a particular condition causes.</td>
</tr>
<tr>
<td>Morphology / Morphologically</td>
<td>The science of the form and structure of organisms (plants, animals, and other forms of life).</td>
</tr>
<tr>
<td>Multidisciplinary team meeting</td>
<td>A meeting which is held on a regular basis, which is made up of participants from various disciplines appropriate to the disease area, where diagnosis, management, and appropriate treatment of patients is discussed and decided.</td>
</tr>
<tr>
<td>Multifocal disease</td>
<td>Occurring in more than one location in the breast.</td>
</tr>
<tr>
<td>Neoadjuvant therapy / treatment</td>
<td>Drug treatment which is given before the treatment of a primary tumour with the aim of improving the results of surgery or chemotherapy and preventing the development of metastases.</td>
</tr>
<tr>
<td><strong>Observed survival</strong></td>
<td>A method of estimating the actual survival prospects of patients following diagnosis. Includes deaths from all causes and does not adjust for underlying differences in patient populations.</td>
</tr>
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</tr>
<tr>
<td><strong>Oestrogen Receptor (ER)</strong></td>
<td>A receptor present in some breast cancer cells which the hormone oestrogen can attach to and stimulate the cancer to grow. This determines whether the cancer is likely to respond to hormone therapy.</td>
</tr>
<tr>
<td><strong>Pathological</strong></td>
<td>The study of disease processes with the aim of understanding their nature and causes. This is achieved by observing samples of fluid and tissues obtained from the living patient by various methods, or at post mortem.</td>
</tr>
<tr>
<td><strong>Progesterone Receptor (PR)</strong></td>
<td>A receptor present in some breast cancer cells which the hormone progesterone can attach to and stimulate the cancer to grow. This determines whether the cancer is likely to respond to hormone therapy.</td>
</tr>
<tr>
<td><strong>Prognostic indicators</strong></td>
<td>Factors, such as staging, tumour type or deprivation that may influence treatment effectiveness and outcomes.</td>
</tr>
<tr>
<td><strong>Psychological</strong></td>
<td>Having to do with how the mind works and how thoughts and feelings affect behaviour.</td>
</tr>
<tr>
<td><strong>Radiotherapy</strong></td>
<td>The use of radiation, usually X-rays or gamma rays, to kill tumour cells.</td>
</tr>
<tr>
<td><strong>Randomised Clinical Trials</strong></td>
<td>A study to test a specific drug or other treatment in which people are randomly assigned to two (or more) groups: one (the experimental group) receiving the treatment that is being tested, and the other (the comparison or control group) receiving an alternative treatment, a placebo (dummy treatment) or no treatment. The two groups are followed up to compare differences in outcomes to see how effective the experimental treatment was. (Through randomisation, the groups should be similar in all aspects apart from the treatment they receive during the study.)</td>
</tr>
<tr>
<td><strong>Recurrence</strong></td>
<td>When new cancer cells are detected at the site of the original tumour, following treatment.</td>
</tr>
<tr>
<td><strong>Relative survival</strong></td>
<td>A method of estimating net survival. The ratio of observed survival divided by expected survival, where the expected survival is based on the life expectancy of the population (from lifetables). This can be thought of as a measure of the survival expectation after developing cancer, or the probability of survival from cancer in the absence of other causes of death.</td>
</tr>
<tr>
<td><strong>Sentinel node biopsy</strong></td>
<td>The lymph node near a body organ or part of an organ which is thought to be the first reached by tissue fluid draining from that organ, this lymph node may be the one most likely to contain cancer cells if the cancer has begun to spread.</td>
</tr>
<tr>
<td><strong>Staging</strong></td>
<td>Process of describing to what degree cancer has spread from its original site to another part of the body. Staging involves clinical, surgical and pathology assessments.</td>
</tr>
<tr>
<td><strong>Surgery/Surgically</strong></td>
<td>Surgical removal of the tumour/lesion.</td>
</tr>
<tr>
<td><strong>Surgical margins</strong></td>
<td>See <em>Excision Margins</em></td>
</tr>
<tr>
<td><strong>Survival</strong></td>
<td>The percentage of people in a study or treatment group who are alive for a certain period of time after they were diagnosed with or treated for a disease, such as cancer.</td>
</tr>
<tr>
<td><strong>Systematic Anti Cancer Therapy (SACT)</strong></td>
<td>Treatment of cancer using drugs which prevent the replication or growth of cancer cells. This encompasses biological therapies and cytotoxic chemotherapy.</td>
</tr>
</tbody>
</table>
| **Trastuzumab** | A manufactured antibody (a small part of our immune defences) which is attracted to the HER2 receptor on some breast
cancers. It signals to the immune system to destroy these cells.

<table>
<thead>
<tr>
<th>Tumour/s</th>
<th>A lump or mass of cells which can be either benign (not cancerous) or malignant.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasound</td>
<td>An imaging test that bounces sound waves off tissues and converts the echoes into pictures.</td>
</tr>
<tr>
<td>Wide excision</td>
<td>The removal of the breast lump together with some surrounding tissue.</td>
</tr>
</tbody>
</table>