NHS SCOTLAND

Scottish Cancer Taskforce
National Cancer Quality Steering Group

Head and Neck Cancer
Clinical Quality Performance Indicators
Engagement Document

August 2021

Contents

1. National Cancer Quality Programme

Better 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 19 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 summary reports published annually. These reports highlight the publication of the QPIs in the Cancer QPI Dashboard which includes 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 Public Health Scotland (PHS) (previously ISD Scotland) for inclusion in the Cancer QPI Dashboard and subsequent national summary 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 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 Head and Neck Cancer QPI Development Group was convened in October 2012, chaired by Ms Philippa Whitford (Consultant Surgeon). Membership of this group included clinical representatives drawn from the three regional cancer networks, Healthcare Improvement Scotland, ISD and patient/carer representatives. Membership of this 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 Head and Neck Cancer QPIs was undertaken for the first time in November 2017. A Formal Review Group was convened, chaired by Mr Andrew McMahon, Consultant Colorectal Cancer Surgeon. 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 February 2021 following reporting of 6 years of QPI data. This cycle of review is more selective and focussed on ensuring the ongoing clinical relevance of the QPIs. A Formal Review Group was convened with Mr Matthew Forshaw, Consultant Upper GI Surgeon, 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 will be arranged where deemed necessary. The review builds on existing evidence using expert clinical opinion to identify where new evidence is available, and 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?

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' (>) 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 Head and Neck Cancer QPIs. The updated document will be implemented for patients diagnosed with Head and Neck Cancer on, or after, 1st April 2020.

6. Quality Performance Indicators for Head and Neck Cancer

QPI 1: Pathological Diagnosis of Head and Neck Cancer

QPI Title:	Patients with head and neck cancer should have a cytological or histological diagnosis before treatment.	
Description:	Proportion of patients with head and neck cancer who have a cytological or histological diagnosis before treatment.	
Rationale and Evidence:	A definitive diagnosis is valuable in helping inform patients and carers about the nature of the disease, the likely prognosis and treatment choice. Cytopathology and histopathology specimens should be reported in accordance with Royal College of Pathologist guidelines[2].	
Specifications:	**Numerator:**	Number of patients with head and neck cancer who have a cytological or histological diagnosis before treatment.
	Denominator:	All patients with head and neck cancer.
	Exclusions:	• Patients who died before treatment. • Patients who decline treatment.
Target:	95% The tolerance within this target is designed to account for situations where it is not appropriate, safe or possible to obtain a cytological or histological diagnosis due to the performance status of the patient or the advanced nature of the disease.	

Revision(s):	***Tolerance statement updated – removed statement about patients in whom treatment is performed at diagnosis i.e. the diagnostic procedure is also therapeutic as these patients do meet the QPI.***

QPI 2: Imaging

QPI Title:	Patients with head and neck cancer should undergo computerised tomography (CT) and/or magnetic resonance imaging (MRI) of the primary site and draining lymph nodes with CT of the chest to determine the extent of disease and guide treatment decision making.	
Description:	Proportion of patients with head and neck cancer who undergo CT and/or MRI of the primary site and draining lymph nodes with CT of the chest before the initiation of treatment and where the report is available within 2 weeks of the final imaging procedure. **Please note:** The specifications of this QPI are separated to ensure clear measurement of the following: (i) Patients with head and neck cancer who are evaluated with appropriate imaging before the initiation of treatment. (ii) Patients with head and neck cancer who are evaluated with appropriate imaging before the initiation of treatment where the report is available within 2 weeks of the final imaging procedure.	
Rationale and Evidence:	Radiological staging should be carried out before treatment[3]. This will allow for the multi-disciplinary team to determine an accurate stage. Accurate staging is important to ensure appropriate treatment is delivered to patients with head and neck cancer.	
Specification (i):	**Numerator:**	Number of patients with head and neck cancer who undergo CT and/or MRI of the primary site and draining lymph nodes with CT of the chest before the initiation of treatment.
	Denominator:	All patients with head and neck cancer.
	Exclusions:	• Patients who undergo diagnostic excision biopsy as the definitive surgery. • Patients who died before treatment. • Patients who decline treatment. .
Specification (ii):	**Numerator:**	Number of patients with head and neck cancer who undergo CT and/or MRI of the primary site and draining lymph nodes with CT of the chest before the initiation of treatment where the report is available within 2 weeks of the final imaging procedure.
	Denominator	All patients with head and neck cancer who undergo CT and/or MRI of the primary site and draining lymph nodes with CT of the chest before the initiation of treatment.
	Exclusions:	• Patients who undergo diagnostic excision biopsy as the definitive surgery. • Patients who died before treatment. • Patients who decline treatment.
Target:	95% The tolerance within this target is designed to account for the fact that some patients may have significant co-morbidities or may not be fit for investigation and/or treatment.	

Revision(s):	***No change to QPI.*** ***Further work is underway to determine the most appropriate way to exclude patients who undergo diagnostic excision biopsy as the definitive surgery.***

QPI 3: Multi-Disciplinary Team Meeting (MDT)

QPI Title:	Patients with head and neck cancer should be discussed by a multidisciplinary team before definitive treatment.
Description:	Proportion of patients with head and neck cancer who are discussed at a MDT meeting before definitive treatment.
Rationale and Evidence:	Evidence suggests that patients with cancer managed by a multi-disciplinary team have a better outcome. There is also evidence that the multidisciplinary management of patients increases their overall satisfaction with their care[4]. Discussion before definitive treatment decisions being made provides reassurance that patients are being managed appropriately.
Specifications:	**Numerator:** Number of patients with head and neck cancer discussed at the MDT before definitive treatment. **Denominator:** All patients with head and neck cancer. **Exclusions:** • Patients who died before first treatment. • Patients who undergo diagnostic excision biopsy as the definitive surgery.
Target:	95% The tolerance within this target is designed to account for situations where patients require treatment urgently.

Revision(s):	***No changes to QPI.*** ***As per action above further work is underway to determine the most appropriate way to exclude patients who undergo diagnostic excision biopsy as the definitive surgery.***

QPI 4: Smoking Cessation

QPI Title:	Patients with head and neck cancer who smoke should be offered referral to smoking cessation before first treatment.	
Description:	Proportion of patients with head and neck cancer who smoke who are offered referral to smoking cessation before first treatment.	
Rationale and Evidence:	A smoker is a person who is actively smoking at the time of referral to the head and neck services leading to a diagnosis of head and neck cancer. Patients who smoke should be offered interventions and support to help them stop. Evidence shows that patients who are active smokers should be referred to smoking cessation without delay[2]. Smoking while undergoing treatment for head and neck cancer can increase risks for disease recurrence and treatment failure. It can also increase the risk of side effects[5, 6]. Evidence shows that smoking can decrease the effectiveness of treatment[7].	
Specifications:	**Numerator:**	Number of patients with head and neck cancer who smoke who are offered referral to smoking cessation before first treatment.
	Denominator:	All patients with head and neck cancer who smoke.
	Exclusions:	• Patients undergoing supportive care only.
Target:	95% The tolerance within this target is designed to account for situations where patients require treatment urgently.	

Revision(s):	***Exclusion category added to QPI for patients undergoing supportive care.***

QPI 5: Oral and Dental Rehabilitation Plan

QPI Title:	Patients whose head and neck cancer treatment may affect oral and dental appearance and function should have an assessment co-ordinated by a Consultant in Restorative Dentistry before initiation of treatment.	
Description:	Proportion of patients with head and neck cancer deemed in need of an oral and dental rehabilitation plan who have an assessment before initiation of treatment. **Please note:** The specifications of this QPI are separated to ensure clear measurement of the following: i) Patients in whom the decision for requiring pre-treatment assessment[a] has been made jointly by Consultants in Restorative Dentistry and the MDT; and ii) Patients who require pre-treatment assessment that have this carried out before initiation of treatment.	
Rationale and Evidence:	Head and neck cancer treatment impacts on oral and facial function and appearance. A restorative dentist should be included as a core member of the head and neck cancer MDT[2,8]. Patients with head and neck cancer should have a pre-treatment oral and dental rehabilitation plan to address the following[8,9]: • To avoid unscheduled interruptions to primary treatment as a result of dental problems; • To ensure the patient understands the nature and implications of short, and long-term oral complications e.g. trismus, xerostomia, osteoradionecrosis, mucositis, caries, peri-implantitis. • To carry out appropriate dental treatment informed by the assessment of individual risk of developing post treatment oral complications taking into account the overall prognosis. • To plan prosthetic oral rehabilitation.	
Specification (i):	**Numerator:**	Number of patients with head and neck cancer undergoing treatment with curative intent whom the decision for requiring pre-treatment assessment has been made jointly by Consultants in Restorative Dentistry and the MDT.
	Denominator:	All patients with head and neck cancer undergoing treatment with curative intent[b].
	Exclusions:	• No exclusions.

(continued overleaf….)

[a] This specification measures whether a joint decision on the requirement for pre-treatment assessment has been agreed regardless of the outcome i.e. whether pre-treatment assessment is required or not.
[b] As stated on the MDT outcome form.

QPI 5: Oral and Dental Rehabilitation Plan (…..continued)

Specification (ii):	**Numerator:**	Number of patients with head and neck cancer undergoing treatment with curative intent who are identified by the MDT as requiring pre-treatment assessment that have assessment carried out before initiation of treatment.
	Denominator:	All patients with head and neck cancer undergoing treatment with curative intent who are identified by all relevant members of the MDT as requiring pre-treatment assessment.
	Exclusions:	• No exclusions.
Target:	95% The tolerance within this target accounts for the fact that some patients may refuse investigations or treatment.	

Revision(s):	***Specification (i) – denominator changed from all those undergoing active treatment to all those undergoing treatment with curative intent (as agreed at MDT).*** ***Specification (i) and (ii) – Exclusion of patients with T1/T2/N0 larynx cancer been removed from both specifications.***

QPI 6: Nutritional Screening

QPI Title:	Patients with head and neck cancer who are at risk of malnutrition should be assessed by a dietitian to optimise nutritional status.
Description:	Proportion of patients with head and neck cancer who undergo nutritional screening, and where identified as at risk of malnutrition are assessed by a dietitian. **Please note:** The specifications of this QPI are separated to ensure clear measurement of the following: (i) Patients with head and neck cancer who undergo nutritional screening with the Malnutrition Universal Screening Tool (MUST) before first treatment. (ii) Patients at high risk of malnutrition (MUST Score of 2 or more) who are assessed by a dietitian[c]; and (iii) Patients with oral, pharyngeal or laryngeal cancer undergoing treatment with curative intent who are assessed by a dietitian prior to the completion of their treatment.
Rationale and Evidence:	Malnutrition is prevalent in patients with head and neck cancer and is recognised that it negatively effects treatment outcomes as those with significant weight loss are more likely to suffer major postoperative complications, less tolerance to radiotherapy with more interruptions to treatment, decreased response to chemotherapy with increased toxicity and shortened survival times[3]. Patients with head and neck cancer should be screened at diagnosis for nutritional status using a validated screening tool appropriate to the patient population[3]. Any patients at risk of malnutrition should be managed by an experienced dietitian[3]. A high number of head and neck cancer patients will not have a MUST score of 2 or more prior to first treatment. Nutrition impact symptoms and associated weight loss arise as a result of treatment side effects. Therefore in order to capture a representative cohort for assessment, patients with oral, pharyngeal or laryngeal cancer undergoing treatment with curative intent have also been selected for the measurement of this QPI in addition to those who score a MUST of 2 or more.
Specification (i):	**Numerator:** Number of patients with head and neck cancer who undergo nutritional screening with the Malnutrition Universal Screening Tool (MUST) before first treatment. **Denominator:** All patients with head and neck cancer. **Exclusions:** • No exclusions.
Target:	95% The tolerance within this target is designed to account for those patients with very advanced disease who may not be fit for treatment, and factors of patient choice.

[c] Dietetic assessments should be within 3 months of MUST screening and may be face to face, telephone or virtual consultations.

QPI 6: Nutritional Screening……(continued)

Specification (ii):	**Numerator:**	Number of patients with head and neck cancer at high risk of malnutrition (MUST Score or 2 or more) who are assessed by a dietitian.
	Denominator:	All patients with head and neck cancer at high risk of malnutrition (MUST Score of 2 or more).
	Exclusions:	• No exclusions.
Target:	90% The tolerance within this target accounts for those patients with very advanced disease in whom dietetics assessment may not be appropriate, as well as factors of patient choice.	
Specification (iii):	**Numerator:**	Number of patients with oral, pharyngeal or laryngeal cancer undergoing treatment with curative intent who are assessed by a dietitian prior to the completion of their treatment.
	Denominator:	All patients with oral, pharyngeal or laryngeal cancer undergoing treatment with curative intent.
	Exclusions:	• No exclusions.
Target:	90% The tolerance within this target is designed to account for those patients where dietetic assessment may not be required e.g. laser resection, and factors of patient choice.	

Revision(s):	***Specification (ii) been added to capture assessment of those patients at risk of malnutrition (MUST Score of 2 or more)*** ***Specification (iii) been added to capture assessment of further patients most likely to be at risk of malnutrition following the commencement of curative treatment i.e. surgery, radiotherapy or chemoradiotherapy.***

QPI 7: Specialist Speech and Language Therapist Access

QPI Title:	Patients with oral, pharyngeal or laryngeal cancer should be seen by a Specialist Speech and Language Therapist (SLT) before treatment to assess voice, speech and swallowing.
Description:	Proportion of patients with oral, pharyngeal or laryngeal cancer undergoing treatment with curative intent who are seen by a Specialist SLT before treatment[d].
Rationale and Evidence:	An SLT who specialises in head and neck cancer should be available to work with every patient whose primary treatment disrupts the ability to speak, eat or swallow[2]. These patients should receive appropriate assessment of communication and swallowing before treatment[2]. Patients whose treatment is likely to affect their ability to communicate should meet the SLT before treatment should commence[2]. Continued SLT input is important in maintaining voice and safe and effective swallow function following head and neck cancer treatment[2,10]. Assessment of voice, speech and swallowing of patients is very difficult to measure accurately therefore uptake is utilised within this QPI as a proxy for assessment. Although it will not provide an absolute measure of patient access to this, it will give an indication of access across NHS Boards and highlight any areas of variance which can then be further examined. It is also difficult to accurately capture all eligibility criteria for this QPI therefore patients undergoing treatment with curative intent have been selected to ensure focussed measurement. Patients are considered for therapy on an individual basis and should still be referred into the service pre/during/post treatment if there are issues with swallowing and/or communication reported.
Specifications:	**Numerator:** Number of patients with oral, pharyngeal or laryngeal cancer undergoing treatment with curative intent who are seen by a Specialist SLT before treatment. **Denominator:** All patients with oral, pharyngeal or laryngeal cancer undergoing treatment with curative intent. **Exclusions:** • Patients who refuse assessment.
Target:	90% The tolerance within this target is designed to account for situations where patients require treatment urgently. It also accounts for those patients where S&L assessment may not be clinically required prior to treatment.

Revision(s):	***Footnote statement to be added to QPI that assessment by SLT may also include virtual consultation.***

[d] Assessments may include face to face, telephone or virtual consultations.

QPI 8: Surgical Margins

QPI Title:	Patients with head and neck cancer undergoing open surgical resection with curative intent should have their tumour adequately excised.
Description:	Proportion of patients with squamous cell carcinoma of the oral cavity, larynx or pharynx with final excision margins of less than 1mm after open surgical resection with curative intent.
Rationale and Evidence:	Achieving clear margins is associated with improved local and regional control and disease specific and overall survival. Where distance from invasive carcinoma to surgical margins is less than 1mm this would be considered involved[11,12]. Margin status is an important predictor of patient outcome[13,14]. Evidence has shown that surgical margins that have positive margins have an increased risk of recurrence[15,16,17].
Specifications:	**Numerator:** Number of patients with squamous cell carcinoma of the oral cavity, larynx or pharynx who undergo open surgical resection with curative intent with final excision margins of less than 1mm (on pathology report). **Denominator:** All patients with squamous cell carcinoma of the oral cavity, larynx or pharynx who undergo open surgical resection with curative intent. **Exclusions:** • Patients with naso-pharyngeal cancer. • Patients with posterior pharyngeal wall cancer.
Target:	<10% This QPI is measuring the proportion of patients who undergo surgery where the tumour has not been completely excised, therefore a 'less than' target level has been set.

Revision(s):	***No changes to QPI.***

QPI 9: Intensity Modulated Radiotherapy (IMRT)

Revision(s):	***QPI Archived*** ***All regions have met and exceeded the 95% target. The QPI has served its purpose in that centres have updated their technology to deliver IMRT universally across the country for head and neck cancer patients.***

QPI 10: Post Operative Chemoradiotherapy

Revision(s):	***QPI Archived*** ***QPI is not providing a meaningful measurement due to the small cohort of patients that are included. A new oncological QPI measuring time of surgery to adjuvant treatment is being developed which will provide a better measure of quality and capture a wider group of patients – see QPI 14.***

QPI 11: 30 and 90 Day Mortality

QPI Title:	30 and 90 day mortality after curative treatment for head and neck cancer.	
Description:	Proportion of patients with head and neck cancer who die within 30 or 90 days of curative treatment.	
Rationale and Evidence:	Treatment related mortality is a marker of the quality and safety of the whole service provided by the MDT[4]. 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, that is, treatments should not be undertaken in futile situations. This QPI is intended to ensure treatment is given appropriately, and the outcome reported on and reviewed. Please note 30 Day Mortality for Systemic Anti-Cancer Therapy (SACT) is measured separately within QPI 13 – see page 17.	
Specifications:	**Numerator:**	Number of patients with head and neck cancer who undergo curative treatment who die within 30 or 90 days of treatment.
	Denominator:	All patients with head and neck cancer who undergo curative treatment.
	Exclusions:	• No exclusions.
	Please Note:	This indicator will be reported separately as 30 day mortality and 90 day mortality by treatment modality, i.e. surgery, radical radiotherapy, chemoradiotherapy etc. as opposed to one single figure.
Target:	<5%	

Revision(s):	***No changes to QPI.*** ***30-Day Mortality following Treatment with SACT will also be measured. This will be reported via the national SACT platform using Chemocare data to include all patients receiving SACT rather than just newly diagnosed patients as per audit – see QPI 13.***

QPI 12: Clinical Trial and Research Study Access

Revision(s):	***The Clinical Trial and Research Study Access QPI which is applicable to all tumour sites – not currently under review.***

QPI 13: 30 Day Mortality following Systemic Anti-Cancer Therapy (SACT)

QPI Title:	30 day mortality following Systemic Anti-Cancer Therapy (SACT) treatment for head and neck cancer.	
Description:	Proportion of patients with head and neck cancer who die within 30 days of SACT treatment.	
Rationale and Evidence:	Treatment related mortality is a marker of the quality and safety of the whole service provided by the Multi-Disciplinary Team (MDT)[4]. 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.	
Specifications:	**Numerator:**	Number of patients with head and neck cancer who undergo SACT that die within 30 days of treatment.
	Denominator:	All patients with head and neck cancer who undergo SACT.
	Exclusions:	• No exclusions
Target:	<5%	

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 head and neck cancer undergoing chemotherapy. Standard reports will be specified to ensure nationally consistent analysis and reporting.

Revision(s):	***NEW QPI - This standard SACT 30 Day Mortality QPI is being incorporated across all tumour types.***

QPI 14: Time from Surgery to Adjuvant Radiotherapy / Chemoradiotherapy

QPI Title:	Patients with squamous cell carcinoma of the oral cavity, pharynx or larynx who undergo adjuvant treatment should commence this within 7 weeks of surgical resection.	
Description:	Proportion of patients with squamous cell carcinoma of the oral cavity, pharynx or larynx who undergo adjuvant radiotherapy or chemoradiotherapy and commence this within 7 weeks of definitive surgical resection.	
Rationale and Evidence:	Evidence suggests that time from surgery to post-operative radiotherapy in patients with head and neck cancer affects survival[21,22]. Post-operative radiotherapy within 6–7 weeks is associated with a survival advantage, even when adjusted for other confounding factors. There is no additional benefit in initiating treatment earlier than this, however increasing the duration beyond this timeframe is associated with a progressive reduction in overall survival[21,22]. In order to improve survival, multidisciplinary teams should focus on shortening the time from surgery to adjuvant radiotherapy[21].	
Specifications:	**Numerator:**	Number of patients with squamous cell carcinoma of the oral cavity, pharynx or larynx who undergo adjuvant radiotherapy or chemoradiotherapy who commence this within 7 weeks of definitive surgical resection.
	Denominator:	All patients with squamous cell carcinoma of the oral cavity, pharynx or larynx who undergo definitive surgical resection followed by adjuvant radiotherapy or chemoradiotherapy.
	Exclusions:	• No exclusions.
Target:	50% The tolerance within this target accounts for the fact that due to co-morbidities or surgical complications not all patients will be suitable for radiotherapy or chemoradiotherapy within the optimal timeframe, although may still benefit from adjuvant treatment.	

Revision(s):	***NEW QPI***

QPI 15: PD-L1 Status for Decision Making

QPI Title:	PD-L1 status should be available to inform treatment decisions in patients with incurable head and neck cancer.	
Description:	Proportion of patients with squamous cell head and neck cancer undergoing first line palliative SACT for whom PD-L1 status is reported within 7 days of MDT request.	
Rationale and Evidence:	PD-L1 expression is an important prognostic indicator for patients with head and neck cancer. Pembrolizumab is recommended as monotherapy or in combination with chemotherapy for first line treatment of metastatic head and neck squamous cell carcinoma in adults whose tumours express programmed cell death ligand-1 (PD-L1) with a combined positive score (CPS) ≥1[23,24.] It is important to ensure the availability of PD-L1 status to inform treatment decision making. Delay in the availability of a PD-L1 result may lead to a delay in appropriate therapy.	
Specifications:	**Numerator:**	Number of patients with squamous cell head and neck cancer undergoing first line palliative SACT for whom PD-L1 status is reported within 7 days of MDT request.
	Denominator:	All patients with squamous cell head and neck cancer undergoing first line palliative SACT.
	Exclusions:	• Patients with nasopharyngeal cancer
Target:	75% The tolerance level within this target is designed to account for situations where there is insufficient tissue for analysis, or where tissue needs to be obtained from out with the region (e.g. if the patient has been diagnosed elsewhere).	

Revision(s):	***NEW QPI***

Survival

Improving survival forms an integral part of the national cancer quality improvement programme. Head and Neck Cancer survival analysis will be reported and analysed on a 3 yearly basis by Public Health Scotland (PHS). 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 Head and Neck Cancer QPI group has identified; during the QPI development process, the following issues for survival analysis.

- 1, 2 and 5 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 will be 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 would make it difficult for individual Boards to undertake routinely and in a nationally consistent manner.

8. Areas for Future Consideration

The Head and Neck 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 Head and Neck Cancer, and therefore in improving the quality of care for patients affected by Head and Neck Cancer.

The following area for future consideration has been raised across the lifetime of the Head and Neck Cancer QPIs.

- Patients undergoing surgery who have an unscheduled return to theatre.
- Lymph node yield.
- Clavien-Dindo IIIa, IIIb, IVa, IVb, or V (death) postoperative complications.

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 5 and 6 provide an overview of these governance arrangements diagrammatically. The importance of ensuring robust local governance processes are in place is 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 NHSScotland.

- 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.

- Public Health Scotland (previously Information Services Division (ISD))
  - Publish national comparative report on tumour specific QPIs and survival for three tumour types per annum and specified generic QPIs 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 the NHS Board Chief Executive Officers and the Scottish Cancer Taskforce 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 multidisciplinary team (MDT) or unit level.

10. How to participate in the engagement process

In order to ensure wide inclusiveness of clinical and management colleagues from across NHSScotland, patients affected by head and neck cancer and the wider public, draft documentation will be widely circulated for comment and feedback. This will include professional groups, health service staff, voluntary organisations and other relevant individuals.

10.1 Submitting your comments

Forms for submission of comments on the Head and Neck cancer QPIs are available from the Scottish Government Consultation Hub (website details below):

All responses should be submitted by **Date TBC** to:

Email: HeadandneckQPIPublicEnagement@gov.scot

If you require any further information regarding the engagement process please use the email address above.

10.2 Engagement feedback

At the end of the engagement period, all comments and responses will be collated for review by the Head and Neck Cancer QPI Formal Review Group. Those who have participated in the engagement process will receive an overview of the changes made and a copy of the final Head and Neck Cancer QPI document.

11. References

1. Scottish Government (2016). Beating Cancer: Ambition and Action. (accessed December 2016). Available from: http://www.scotland.gov.uk/Resource/Doc/242498/0067458.pdf.
2. NICE (2004) Improving outcomes in head and neck cancers: guidance on cancer services (accessed on: 3rd June 2013); Update available from: Improving outcomes in head and neck cancers | Guidance | NICE
3. SIGN (2006) Diagnosis and management of head and neck cancer (accessed 3rd June 2013).
4. NHS Quality Improvement Scotland (2008) Clinical standards for the management of bowel cancer (accessed 3rd June 2013).
5. Sharp L, Tishelman C (2005) Smoking cessation for patients with head and neck cancer. Cancer Nursing, 2005; 28: 226 -235.
6. Pfister DG, Laurie SA, Weinstein GS, Mendenhall WM, Adelstein DJ, Ang KK et al (2006) American society of clinical oncology clinical practice guideline for the use of larynx preservation strategies in the treatment of laryngeal cancer.
7. Vander A.W, DiNardo L.J, Oliver D.S (1997) Factors affecting smoking cessation in patients with head and neck cancer. Laryngoscope,1997; 07: 888-892.
8. ENT UK (2016) Head and Neck Cancer: Multidisciplinary Management Guidelines. (accessed 6th March 2018); Available from: https://www.cambridge.org/core/journals/journal-of-laryngology-and-otology/head-and-neck-guidelines
9. RD-UK (2016) Predicting and Managing Oral and Dental Complications of Surgical and Non surgical Treatment for Head and Neck Cancer – A Clinical Guideline. (accessed 6th March 2018); Available from: https://www.restdent.org.uk/uploads/RD-UK%20H%20and%20N%20guideline.pdf
10. Paterson J.M, McColl E, Carding P.N, Kelly C, Wilson J.A. (2009) Swallowing performance in patients with head and neck cancer. Oral Oncology,2009; 45(10):904-907.
11. Helliwell T, Woolgar J. Standards and Datasets for Reporting Cancers. Dataset for Histopathology reporting of mucosal malignancies of the pharynx: Royal College of Pathologists, 2013.
12. Helliwell T, Woolgar J. Standards and Datasets for Reporting Cancers. Dataset for Histopathology reporting of salivary gland neoplasms: Royal College of Pathologists, 2013.
13. McMahon J, O'Brien C.J.O, Pathak I, Hamill R, McNeil E, Hammersley N, Gardiner S, Junor E (2003) Influence of condition of surgical margins on local recurrence and disease-specific survival in oral and oropharyngeal cancer. British Journal of oral and maxillofacial surgery, 2003; 41: 224-231.
14. McMahon J, Devine J, Hetherington J, Bryson G, McLellan D, MacIver C, Teasdale E, Jampana R (2011) Involved surgical margins in oral and oropharyngael carcinoma – an anatomical problem? British Journal of oral and maxillofacial surgery, 2011; 49: 172 - 175.
15. Binahmed A, Nason R.W, Abdoh A.A (2007) The clinical significance of the positive surgical margin in oral cancer. Oral Oncology, 2007; 43: 780–784.
16. Wong L.S, McManon J, Devine J, McLellan D, Thompson E, Farrow A, Moosa K, Avoub A. (2012) Influence of close resection margins on local recurrence and disease-

specific survival in oral and oropharyngeal carcinoma. British Journal of oral and maxillofacial surgery, 2012; 50: 102-108.

17. Bradlev P.J, MacLennan K, Brakenhoffc R.H, Leemansc C.R (2007) Status of primary tumour surgical margins in squamous head and neck cancer: prognostic implications. Current Opinion in Otolaryngology & Head and Neck Surgery, 2007; 15:74–81.
18. Cooper J.S, Pajak T.F, Forastiere A.A, Jacobs J et al (2004) Postoperative Concurrent Radiotherapy and Chemotherapy for High-Risk Squamous-Cell Carcinoma of the Head and Neck. The New England Journal of Medicine, 2004; 350(19); 1937-1944.
19. Bernier J, Domenge C, Ozsahin M, Matuszewska K et al (2004) Postoperative Irradiation with or without Concomitant Chemotherapy for Locally Advanced Head and Neck Cancer. The New England Journal of Medicine, 2004; 350(19); 1945-1952.
20. Pignon JP, Le Maitre A, Maillard E, Bourhis J (2009) Meta-analysis of chemotherapy in head and neck cancer (MACH-NC): An update on 93 randomised trials and 17,346 patients. Radiotherapy and Oncology, 2009; 92: 4-14.
21. Harris JP, Chen MM, Orosco RK, Sirjani D, Divi V, Hara W. Association of Survival With Shorter Time to Radiation Therapy After Surgery for US Patients With Head and Neck Cancer. JAMA Otolaryngol Head Neck Surg. 2018;144(4):349-359. doi:10.1001/jamaoto.2017.3406.
22. Graboyes EM, Garrett-Mayer E, Ellis MA, et al. Effect of time to initiation of postoperative radiation therapy on survival in surgically managed head and neck cancer. Cancer. 2017;123(24):4841-4850. doi:10.1002/cncr.30939
23. Scottish Medicines Consortium Guidance for Pembrolizumab 2257. (accessed on 3rd August 2021). Available from: https://www.scottishmedicines.org.uk/medicines-advice/pembrolizumab-keytruda-full-smc2257/
24. NICE (2020) Pembrolizumab for untreated metastatic or unresectable recurrent head and neck squamous cell carcinoma. Technology appraisal guidance [TA661] Published: 25th November 2020. (accessed 2rd August 2021). Available from: https://www.nice.org.uk/guidance/TA661
25. Brouwers M, Kho ME, Browman GP, Burgers JS, Cluzeau F, Feder G, Fervers B, Graham ID, Grimshaw J, Hanna S, Littlejohns P, Makarski J, Zitzelsberger L for the AGREE Next Steps Consortium (2010). AGREE II: Advancing guideline development, reporting and evaluation in healthcare. Can Med Assoc J. 182(18), E839-E842 [online]. (accessed August 2013). Available from: http://www.cmaj.ca/content/182/18/E839.full.pdf+html?maxtoshow=&hits=10&RESU%20LTFORMAT=&fulltext=brouwers&searchid=1&FIRSTINDEX=0&volume=182&issue=%2018&resourcetype=HWCIT%2520%2520%2520

12. Appendices

Appendix 1: QPI Development Process

Preparatory Work and Scoping
The preparatory work involved the development of a structured briefing paper by Healthcare Improvement Scotland. This paper took account of existing, high quality, clinical guidance and provided a basis for the development of QPIs.

The scope for development of Head and Neck Cancer QPIs and a search narrative were defined and agreed by the Head and Neck Cancer QPI Development Group. The table below shows the final search criteria used in the literature search.

Inclusion	Exclusion

• Primary cancer of the:
  • Larynx
  • Oral cavity (including lip)
  • Oropharynx
  • Hypopharynx
  • Nasopharynx
  • Paranasal sinuses
  • Salivary glands (including mucoepidermoid tumours)
  • Nose and ear.
• Diagnosis
• Staging
• Surgical management
• Non-surgical management
• Adults only
• 2005 to present day
• English only
• Clinical guidelines
	• Secondary cancers, very rare cancers and benign tumours, including:
	  • Medullary thyroid cancer
	  • Odontogenic tumours
	  • Neurological tumours, eg olfactory esthesioneuroblastoma (included in CNS QPIs)
	  • Oesophageal (included in upper GI QPIs)
	  • Facial cancers other than nose and ear (to be included in skin QPIs)
	  • Tracheal cancers (included in lung QPIs)
	  • Pre-cancerous conditions
	  • Secondary head and neck cancer
	• Prevention
	• Screening
	• Primary care/referral
	• Communication, information sharing and support
	• Follow up
	• Management of recurrence/relapsed disease
	• Palliative/end of life care (pain management, end of life counselling, hospice management)
	• Clinical trials recruitment and protocols

Table 1 – Head and Neck Cancer Search Criteria

A systematic search was carried out by Healthcare Improvement Scotland using selected websites and two primary medical databases to identify national and international guidelines.

Ten guidelines were appraised for quality using the AGREE II[25] instrument. This instrument assesses the methodological rigour used when developing a guideline. Two of the guidelines were not recommended for use and eight were recommended for use with consideration of their applicability or currency.

Indicator Development

The Head and Neck 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 clinical recommendations set out in the briefing paper as a base, ensuring all indicators met 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?

Engagement Process

A wide clinical and public engagement exercise was undertaken as part of development in October 2013 where the Head and Neck 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 Head and Neck Cancer and the wider public were given the opportunity to influence the development of Head and Neck Cancer QPIs.

Draft documentation was circulated widely to professional groups, health service staff, voluntary organisations and individuals for comment and feedback.

Following the engagement period all comments and responses received were reviewed by the Head and Neck Cancer QPI Development Group and used to produce and refine the final indicators.

Appendix 2: Head and Neck Cancer QPI Development Group Membership (2012)

Name	Designation	Cancer Network/Base
Philippa Whitford (chair)	Consultant Surgeon	WoSCAN / NHS Greater Glasgow and Clyde
Richard Adamson	Consultant ENT Surgeon	SCAN / NHS Lothian
Kim Ah-See	Consultant ENT Head and Neck Surgeon	NOSCAN / NHS Grampian
John Devine	Consultant Maxillofacial Surgeon/Head and Neck Surgeon	WOSAN / NHS Greater Glasgow and Clyde
Kim Dobie	Lead Cancer Audit Facilitator	WoSCAN / NHS Ayrshire and Arran
Andy Evans	Consultant ENT Surgeon	SCAN / NHS Lothian
Carol-Anne Fleming	Dietetic Clinical Team Lead – Oncology	WoSCAN / NHS Greater Glasgow and Clyde
Jim Foulis	Clinical Services Manager – Specialist Services, Oncology and Renal.	NOSCAN / NHS Tayside
Michele Hilton Boon	Programme Manager	Healthcare Improvement Scotland
Sachin Jauhar	Consultant and Honorary Senior Clinical Lecturer in Restorative Dentistry	WoSCAN / NHS Greater Glasgow and Clyde
Jennifer Jennings	Patient Representative	
Liz Junor	Consultant Oncologist	SCAN/ NHS Lothian
Lesley Kidd	Patient Representative	
Terry Lowe	Consultant Maxillofacial Head and Neck Surgeon	NOSCAN / NHS Grampian
Kelly Macdonald	Project Manager	National Cancer QPI Development Programme
Carol Macgregor	Consultant Clinical Oncologist	NOSCAN / NHS Highland
Hannah Monaghan	Consultant Pathologist	SCAN / NHS Lothian
Stephen Morley	Consultant Plastic Surgeon	WoSCAN / NHS Greater Glasgow and Clyde
James Morrison	Consultant Maxillofacial Surgeon	SCAN / NHS Lothian
Rod Mountain	Lead Consultant ENT Surgeon	NOSCAN / NHS Grampian
Ann Muir	Patient Representative	
Brian Murray	Principle Information Development Manager	Information Services Division
Tim Palmer	Consultant Pathologist	NOSCAN / NHS Grampian
Julip Philp	Head and Neck Clinical Nurse Specialist	SCAN / NHS Fife

Name	Designation	Cancer Network/Base
Mohammed Rizwanullah	Consultant Clinical Oncologist	WoSCAN / NHS Greater Glasgow and Clyde
Shirley-Anne Savage	Cancer Services Manager	SCAN / NHS Fife
Anne Marie Sinclair	Clinical Director, Diagnostic Imaging	WoSCAN / NHS Greater Glasgow and Clyde
Margaret Singer	Lead Speech and Voice Therapist (ENT)	NOSCAN / NHS Grampian
David Summers	Consultant Radiologist	SCAN / NHS Lothian
Amir Tadros	Consultant Plastic Surgeon	NOSCAN / NHS Grampian
Lesley Taylor	Senior Specialist Nurse	NOSCAN / NHS Grampian
Evelyn Thomson	Regional Manager (Cancer)	WoSCAN

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

Appendix 3: Head and Neck Cancer QPI Formal Review Group Membership (2017/2018)

Name	Designation	Cancer Network/Base
Andrew McMahon (Chair)	Consultant Colorectal Surgeon	WoSCAN / NHS Greater Glasgow & Clyde
Kim Ah-See	Consultant Head and Neck Surgeon	NOSCAN / NHS Grampian
Jen Doherty	Project Co-ordinator	National Cancer Quality Programme
Terry Lowe	Consultant Maxillofacial Head and Neck Surgeon	NOSCAN / NHS Grampian
Jim McCaul	Oral Maxillofacial Head and Neck Surgeon / MCN Lead	WoSCAN / NHS Greater Glasgow & Clyde
Rafael Moleron	Consultant Clinical Oncologist	NOSCAN / NHS Grampian
James Morrison	Consultant Maxillofacial Head and Neck Surgeon	SCAN / NHS Lothian
Iain Nixon	Consultant Head and Neck Surgeon / MCN Lead	SCAN / NHS Lothian
Stuart Robertson	Consultant Head and Neck Surgeon	WoSCAN / NHS Greater Glasgow & Clyde
Lorraine Stirling	Project Officer	National Cancer Quality Programme
Christine Urquhart	Audit and Information Manager	NOSCAN
Heather Wotherspoon	MCN Manager	WoSCAN

Formal review of the Head and Neck Cancer QPIs has been undertaken in consultation with various other clinical specialties e.g. oncology and pathology.

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

Appendix 4: Head and Neck Cancer QPI Formal Review Group Membership (2021)

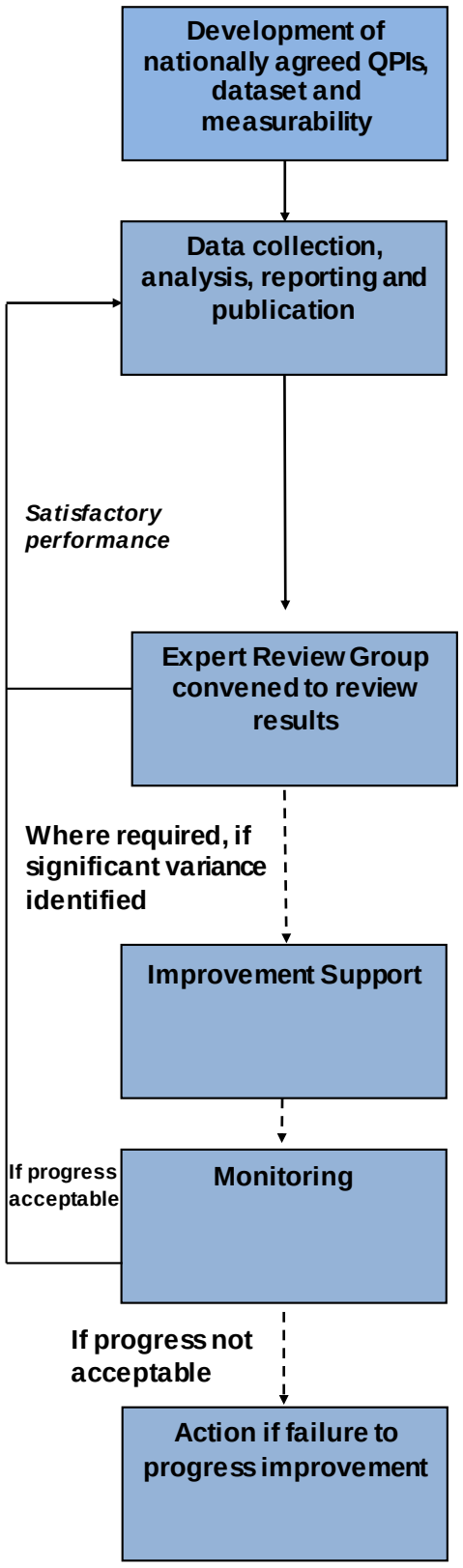
Name	Designation	Cancer Network/Base
Matthew Forshaw (Chair)	Consultant Upper GI Surgeon	WoSCAN
Bobby Alikhani	Regional Manager (Cancer)	SCAN
Jen Doherty	Project Co-ordinator	National Cancer Quality Programme
Kathryn Gray	Macmillan Head and Neck Cancer Nurse	NCA
Derek Grose	Consultant Clinical Oncologist	WoSCAN
Anne-Marie Hobkirk	Health Intelligence Analyst	NCA
Jim McCaul	Head and Neck Cancer Clinical Lead	WoSCAN
James Morrison	Head and Neck Cancer Clinical Lead	SCAN
Devraj Srinvasan	Consultant Clinical Oncologist	SCAN
Lorraine Stirling	Project Officer	National Cancer Quality Programme
Fengyi Yi Soh	Consultant Clinical Oncologist	NCA
Athena Togo	Consultant Surgeon	NCA
Heather Wotherspoon	MCN Manager	WoSCAN

Formal review of the Head and Neck Cancer QPIs has been undertaken in consultation with various other clinical specialties e.g. oncology and pathology.

NCA - North Cancer Alliance
SCAN - South East Scotland Cancer Network
WoSCAN - West of Scotland Cancer Network

Appendix 5: 3 Yearly National Governance Process & 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, see appendix 6.
- Submit yearly reports to ISD for collation and publication every 3 years.
- National comparative report approved by NHS Boards and RCAGs.
- ISD produce comparative, publicly available, national report consisting of trend analysis of 3 years data and survival analysis.

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:

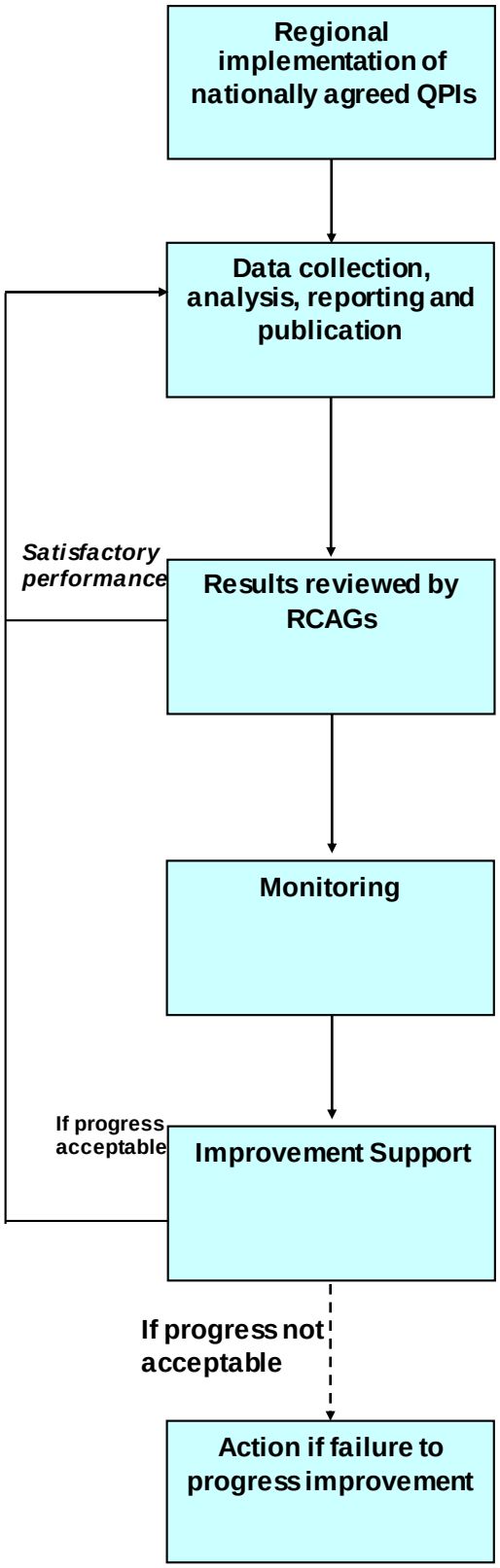
- RCAGs work with Boards to progress outstanding actions, monitor improvement plans and submit progress report to Healthcare Improvement Scotland.
- Healthcare Improvement Scotland report to Scottish Cancer Taskforce as to whether progress is acceptable.

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.

*The regional Cancer planning Group (South and East of Scotland) and the North Cancer Clinical Leadership Group (North Cancer Alliance) are equivalent to the Regional Cancer Advisory Group (RCAG) in the West of Scotland.

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.

*The regional Cancer planning Group (South and East of Scotland) and the North Cancer Clinical Leadership Group (North Cancer Alliance) are equivalent to the Regional Cancer Advisory Group (RCAG) in the West of Scotland.

Appendix 7: Glossary of Terms

Adjuvant Treatment	Treatment such as chemotherapy, or radiotherapy that is given after a surgical procedure to reduce the risk of the cancer coming back.
Chemotherapy	The use of drugs used to kill cancer cells, to prevent or slow their growth.
Chemoradiation	Treatment that combines chemotherapy with radiation therapy.
Co-morbidity/Comorbidities	Other conditions and symptoms prevelant other than the primary diagnosis.
Computed Tomography (CT)	An x-ray imaging technique, which allows detailed investigation of the internal organ of the body.
Curative Intent/ Curative Treatment	Treatment which is given with the aim of curing the cancer.
Curative Surgical Resection	Surgical removal of the tumour/lesion with the aim of curing the cancer.
Cytological / Cytopathological	The study of the structure and function of cells under the microscope, and of their abnormalities.
Debulking palliative surgery	Surgical removal of as much of a tumour as possible, to relieve symptoms or help the patient live longer.
Decalcifying Bone	The removal of calcium or calcium compounds from the bone.
Definitive Surgery	Treatment designed to potentially cure cancer.
Definitive treatment	Treatment designed to potentially cure cancer using one or a combination of interventions.
Diagnosis	The process of identifying a disease, such as cancer, from its signs and symptoms.
Extracapsular Spread	Spread of cancer cells outwith the tumour.
Histological / Histopathogical	The study of the structure, composition and function of tissues under the microscope, and their abnormalities.
Hypopharyngeal Cancer	Cancer of the hypopharynx.
Hypopharynx	The bottom part of the throat, where the the larynx and esophagus meet.
Intensity Modulated Radiotherapy (IMRT)	IMRT is an advanced mode of high-precision radiotherapy that uses computer-controlled linear accelerators to deliver precise radiation doses to a malignant tumor or specific areas within the tumor.
Larynx	The larynx is a small organ situated in the front part of the neck and attached to the windpipe. It allows the air breathed in through the nose and mouth to reach the lungs, acts as a valve which closes to prevent food and drink entering the windpipe when swallowing and it contains the vocal cords.
Laryngeal Cancer	Cancer of the larynx.
Lymph nodes	Small organs which act as filters in the lymphatic system.
Morbidity	How much ill health a particular condition causes.
Mortality	Either (1) the condition of being subject to death; or (2) the death rate, which reflects the number of deaths per unit of population in and specific region, age group disease or other classification, usually expressed as deaths per 1,000, 10,000 or 100,000.
Magnetic Resonance Imaging (MRI)	A procedure in which radio waves and a powerful magnet linked to a computer are used to create detailed pictures of areas inside the body. These pictures can show the difference between normal and diseased tissue.
Malnutrition	The condition caused by an imbalance by what individuals eat and what is required to maintain health. This can result from eating too little but also may imply an incorrect balance of basic

	foodstuffs such as protein, carbohydrates and fats.
Malnutrition Universal Screening Tool (MUST)	A five step screening tool which is used to identify adults who are malnourished, at risk of malnutrition, or obese. It also includes management guidelines which can be used to develop a care plan.
Multidisciplinary Team	Team which consists of various specialities and may be different depending on disease. For example, pathologist, surgeon, etc.
Multidisciplinary Team Meeting (MDT)	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 agreed.
Nasopharynx	The upper part of the pharynx behind the nose.
Nasopharyngeal cancer	Cancer of the nasopharynx.
Neoadjuvant chemotherapy	Chemotherapy treatment which is given before cystectomy with the aim of improving the results of surgery and preventing the development of metastases.
Oncologist	A doctor who specialises in treating people with cancer.
Oral Cavity	The mouth. This includes the front two-thirds of the tongue, the upper and lower gums, the lining of the inside of the cheeks and lips, the bottom of the mouth under the tongue, the bony top of the mouth (hard palate) and the small area behind the wisdom teeth.
Oral Cavity Cancer	Cancer of the oral cavity.
Oropharynx	The part of the pharynx that lies between the junction of the hard and soft palates. It contains the tonsils and connects the oral cavity and nasopharynx to the hypopharynx.
Oropharyngeal Cancer	Cancer of the oropharynx.
Osteoradionecrosis (ORN)	A complication which may be experienced by oral cancer patients as a result of radiotherapy treatment which result in the bone dying during treatment.
Palliative	Anything which serves to alleviate symptoms due to the underlying cancer but is not expected to cure it.
Palliative Surgery	Operation undertaken to alleviate symptoms due to the underlying cancer but not expected to cure it.
Paranasal Sinus	One of many small hollow spaces in the bones around the nose. Paranasal sinuses are named after the bones that contain them: frontal (the lower forehead), maxillary (cheekbones), ethmoid (beside the upper nose), and sphenoid (behind the nose). The paranasal sinuses open into the nasal cavity (space inside the nose) and are lined with cells that make mucus to keep the nose from drying out during breathing.
Paranasal Sinus Cancer	Cancer which occurs in the spaces within the bones behind the nose and cheeks.
Pathological/Pathology	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 a post mortem.
Performance Status	A measure to quantify a cancer patient's general well-being and activities of daily living. This measure is used to determine whether they are fit to receive treatment such as chemotherapy.
Pharynx	A muscular tube lined with mucous membrane that extends from the beginning of the oesophagus (gullet) up to the base of the skull. It is divided into nasopharyns, oropharynx and hypopharynx.
Pharyngocutaneous Fistula (PCF)	A common non-fatal complication following total laryngectomy.

Positive Surgical Margins	A positive surgical margin is when there are cancer cells at the edge of the tissue that has been removed.
Prognostic Indicator	Factors, such as staging, tumour type, and laboratory studies that may indicate treatment effectiveness and outcomes.
Progression	The process of cancer spreading or becoming more severe.
Radical Chemoradiotherapy	The use of chemotherapy and radiotherapy to treat disease with the intent of curing.
Radical Intent	To treat the disease with the intent of curing.
Radical Radiotherapy	The use of radiation to treat disease with the intent of curing.
Radical treatment	Vigorous treatment that aims at the complete cure of a disease rather than merely the relief of symptoms.
Radiotherapy	The use of radiation (such as x-rays) to diagnose or treat disease.
Smoking Cessation	Otherwise referred to as 'quitting smoking'.
Stage	Stage is used to describe the size of the tumour and how far it may have spread within the body. Various staging systems are used to describe the cancer i.e. TNM.
Surgery/ Surgical resection	Surgical removal of the tumour/lesion
Swallowing Function	Swallowing is a complex mechanism using both skeletal muscle (tongue) and smooth muscles of the pharynx and esophagus. The autonomic nervous system (ANS) coordinates this process in the pharyngeal and esophageal phases.
Survival	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.
TNM	'TNM' stands for Tumour, Node, and Metastasis. This system can describe the size of a primary tumour, whether the cancer has spread to the lymph nodes and whether the cancer has spread to a different part of the body (metastasised). The system uses numbers to describe the cancer. 'T' refers to the size of the cancer - it can be 1, 2, 3 or 4, with 1 being small and 4 large. 'N' refers to whether the cancer has spread to the lymph nodes - it can be between 0 (no positive nodes) and 3 (lots of positive nodes). 'M' refers to whether the cancer has spread to another part of the body - it can either be 0 (the cancer hasn't spread) or 1 (the cancer has spread).
Toxicity	The extent to which something is poisonous or harmful.
Treatment Related Morbidity	The frequency of the appearance of complications following a surgical procedure or other treatment.
Treatment Related Mortality	Treatment related deaths.