

National Head and Neck Cancer Audit 2012



Eighth Annual Report

Electronic copies of the Annual Report can be found at www.hscic.gov.uk/clinicalaudits

For further information about this report, email: enquiries@hscic.gov.uk or contact:

Clinical Audit Support Unit (CASU)
The Health and Social Care Information Centre,
1 Trevelyan Square
Boar Lane
Leeds
LS1 6AE



The Healthcare Quality Improvement Partnership (HQIP) promotes quality in healthcare. HQIP holds commissioning and funding responsibility for the National Head and Neck Cancer Audit and other national clinical audits as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP).



Health and Social Care Information Centre (HSCIC) is the trusted source of authoritative data and information relating to health and care. HSCIC's information, data and systems play a fundamental role in driving better care, better services and better outcomes for patients. HSCIC managed the publication of this Annual Report.



The British Association of Head & Neck Oncologists

The British Association of Head and Neck Oncologists (BAHNO) is a multidisciplinary society for healthcare professionals involved in the study and treatment of head and neck cancer. The association serves as a forum for the discussion and sharing of knowledge between the various clinical and research specialities involved in the management of patients with head and neck cancer. The Association has also had a role in the production of national clinical standards and assisted in the production of clinical guidelines.

National Head and Neck Cancer Audit 2012

Key findings for England and
Wales for the audit period
November 2011 to October 2012

Contents

Acknowledgments	5
Foreword	6
1. Executive Summary	7
2. What are the gaps in patient care and what should be done to improve care to patients?	9
3. Background to head and neck cancer and comparative audit	11
4. Findings	16
Appendices	46
Appendix 1	46
Appendix 2	47
Appendix 3	48
Appendix 4	49
Appendix 5	50
Appendix 6	51
Appendix 7	52
Appendix 8	58
References	59

Acknowledgments

The National Head and Neck Cancer Audit was commissioned and sponsored by the Healthcare Quality Improvement Partnership (HQIP)¹, developed in partnership with the British Association of Head and Neck Oncologists (BAHNO)² and managed by the Health and Social Care Information Centre (HSCIC)³.

The project wishes to acknowledge the following who have supported the audit project and provided guidance during the data collection period from 1 November 2011 to 31 October 2012 to and during the compilation of this report:

The National Head and Neck Cancer Audit project team chaired by Richard Wight and Graham Putnam with project management from Julie Michalowski with support from Rose Napper, Stephanie Butler and Anne Cerchione.

Simon Hodder (Chair) Head and Neck Cancer sub group of the Cancer National Specialist Advisory Group (NSAG), Wales, for the contribution from Wales to the audit.

The following groups have supported the audit, including; the Expert Panel, the Head and Neck Clinical Reference Group (now co-terminus with the National Cancer Intelligence Network (NCIN)¹⁹ Head and Neck Site Specific Clinical Reference Group (SSCRG)²¹. See [Appendix 5](#) to view the Clinical Reference Group membership.

The analysis for this report was undertaken by the Cancer Registries and the HSCIC³. Special thanks must be given to Gabriele Price and her team from the Oxford Cancer Intelligence Unit (OCIU)⁴, Ceri White and his team from the Welsh Cancer Intelligence and Surveillance Unit (WCISU)⁵ and Arthur Yelland and Claire Meace at the HSCIC³.

The following clinicians contributed to the eighth Annual Report Expert Panel and thanks are due to the following representatives: Richard Wight (Chair), Graham Putnam (Vice Chair), ENT surgery Mark Watson and Stuart Winter; Oral and Maxillofacial surgery Cyrus Kerawala and Ceri Hughes; dietetics Rachael Donnelly and Pippa Lowe and speech and language therapy Jo Paterson.

Finally, thanks go to all those organisations that have participated in the audit so far and for the individual contributions of clinicians, managers and administrative staff whose significant efforts make the audit what it is. Thanks must also go to all those patients whose data contributes to bringing about improvements in the provision of care and outcomes for all those similarly afflicted by head and neck cancer.

Foreword

This is a high quality national report that I would encourage everyone involved in the commissioning and provision of head and neck cancer to read.

I very much welcome the author's concentration on reporting and highlighting of treatment variation across the country. The role of these reports is to establish the picture across the treatment landscape, to allow the discussion between commissioners and providers to drive out unacceptable variation. This will drive up quality of care in terms of consistent treatment received and thereby enhanced experience and survival outcomes. Where custom and practice have become the norm and are inconsistent with national practice there is clear scope for challenge and understanding.

The data robustness and conclusions drawn are only possible because of the efforts and commitment from the multidisciplinary teams (MDT) who make it possible and they are to be congratulated on the impressive case returns. However, there are areas where improvements are needed in order to be able to make valid comparisons, specifically in the area of staging and co-morbidities. These are both key elements to decision making within MDTs and are available for consistent collection and submission to the audit.

Risk adjusted outcomes are crucial and will be very important in the comparisons to be made as a result of the publication of surgeon specific outcomes. It is very encouraging to see that the British Association of Head and Neck Oncologists (BAHNO)² are supporting NHS England in the decision to publish outcomes data but they need the support of the constituent MDTs to return as much detail as possible.

The increase in organ sparing treatments is welcomed in this group of cancers where patient morbidity, as a result of necessary treatment, has such an impact on quality of life. With time, the impact on survival will be available and watched closely.

The roles of speech and language therapists, dieticians and dental care staff are again highlighted. Commissioners should look closely at the collated Peer Review outputs in conjunction with this national audit, to identify areas where further support is needed to help these key health professionals provide the management and support of head and neck cancer patients.

Mr Sean Duffy
National Clinical Director for Cancer
NHS England

1. Executive Summary

- The audit this year, has for the first time, focused on reporting variation by the multidisciplinary team (MDT) as the key hub of treatment integration. Commissioners should use this information to determine whether local providers meet the standards of care delivery they require for their patients. Commissioners should also compare the audit results with other sources of information – such as Peer Review and the Cancer Patient Experience Survey⁶, to gain a broader picture of the quality of local head and neck cancer services.
- The Cancer Registry estimate of cases of head and neck cancer has risen to 8002, of which the audit has received 8272 – 103.4 per cent of the estimate. This year we have collected data on nasal cavity and sinus cancers (see [section 4.4.4.2](#)) as well as bone tumours 98.4 per cent and 162.5 per cent of estimate respectively.
- Universal contribution was seen in England and Wales, a significant achievement for the audit and the head and neck community.
- Data submission rates have improved across the breadth of the pathway, but again significant variation between cancer networks was seen.
- The submission of staging data fell from last year's 81.2 per cent, to 79.9 per cent; six cancer networks had poor levels of recording. These were; Kent and Medway, Mount Vernon, North West London, South East London, Surrey West Sussex and Hants and Thames Valley.
- Significant variation exists between cancer networks in their ability to provide the three data items of: staging, performance status and co-morbidity. Five cancer networks are to be congratulated for achieving over 75 per cent for all three items, whilst a significant number of cancer networks achieved only minimal (less than ten per cent) or zero submissions.
- The audit endeavours to deliver risk adjusted outcomes, but to achieve this it is imperative that all cancer networks contribute high levels of staging, performance status and co-morbidity data to facilitate this much anticipated output. We aim to produce risk adjusted outcomes from the best submitting cancer networks later this year in association with the OCIU⁴, and this will be well publicised when available.
- For cases of early larynx cancer, variation was seen in the management of the condition (see [section 4.4.1](#)). There was considerable variation between radiotherapy and endolaryngeal resection, with one or other treatment predominating in some cancer networks, with cumulative evidence suggesting established patterns of treatment in cancer networks. This questions whether patients are really being given a choice of treatment for this condition.
- In oral cavity tongue cancer, significantly more detailed surgical information has been analysed by including Data for Head and Neck Oncology (DAHNO) submissions, Hospital Episode Statistics (HES)⁷ data and Radiotherapy Data Set Statistics (RTDS)⁸ information for patients in England (see [section 4.4.2](#)). RTDS only added one further case, indicating that the audit appears to accurately record radiotherapy as a primary treatment despite suggestions that we were failing to capture this data.
- Oropharynx cancer showed variation between surgical and non-surgical management, with again some cancer networks seemingly favouring one treatment modality over another (see [section 4.4.3](#)).
- From this year's data there is now evidence to support the notion that in T3 glottic carcinoma, chemoradiotherapy protocols are rising in frequency, supporting previous anecdotal reporting by clinical teams (see [section 4.4.4.1](#)).
- The submission of multi-professional data has improved further this year with much greater assurance of treatment delivery by the range of professionals involved in head and neck cancer care. Significant variation remains between cancer networks and their ability to confirm these important inputs into quality care delivery (see [section 4.7](#)).
- In an attempt to combine different aspects of care as an ideal patient pathway we have presented seven elements of care by cancer network as a single chart to demonstrate the completeness of these components, including the number of patients receiving one to seven elements of the pathway (see [section 4.3](#)).
- MDT discussion has risen to 95.6 per cent (see [section 4.8.4](#)). Two cancer networks reported over 15 per cent of cases as not having been discussed at an MDT. These were: Greater Manchester and Cheshire and Pan Birmingham.
- Time from diagnosis to primary radiotherapy has reduced further to 41 days, from the 42 day figure in the seventh and 44 days in the sixth Annual Reports. Within cancer networks and care providers, significant variation remains in this interval and further reduction will require focused effort (see [section 4.8.6](#)).
- Inclusion of date of discharge has allowed us to analyse median surgical length of stay, and report the variation by anatomical sub site and treatment centre (see [section 4.8.7](#)). With the pressure on inpatient beds, this information can assist trusts in planning their case load requirements and facilitate planned discharge with linked care packages.

- Crude survival is again reported with a stark reminder that 20 per cent of all head and neck cancer patients are deceased within a year of diagnosis and 30 per cent by two years (see [section 4.9](#)). Multi-professional support to this group of patients is an important element of high quality clinical care not only at the front end of the care pathway as the legacy of treatment for head and neck cancer requires prolonged support.
- The audit will work with HQIP¹ and BAHNO² to meet the requirements of the NHS England planning guidance in the production of surgeon specific data.

2. What are the gaps in patient care and what should be done to improve care to patients?

2.1 How organisations are represented in the audit

For the first time we are able to report numbers of patients by MDT, better reflecting care delivered by teams. Throughout the report, where appropriate, information is reflected by first diagnosing organisation, by MDT, by contact organisation for treatment (the provider organisation code submitted on the treatment records) and by cancer network. Each table clearly states which identifier is used.

Routes of submission of data vary between organisations, which reflect the complex care pathways patients undertake. Who submits data and on behalf of whom can be seen [here](#).

In Wales, the data is submitted centrally and annually from the all Wales cancer data information system, Cancer Network Information System Cymru (CaNISC)⁴¹.

The tertiary centres - The Christie NHS Foundation Trust and Clatterbridge Centre for Oncology NHS Foundation Trust are not counted in the table showing numbers of patients registered with new head and neck primaries by anatomical site submitted, as it shows submissions by first diagnosing organisation. These two organisations do not diagnose patients and therefore they would have a null count, implying they have not participated in the audit. If their codes have been used as a provider organisation they will be reported in treatment analyses.

2.2 Which networks and MDTs have provided good data quality, and assurance of care?

For patients, carers, and commissioners of services it is helpful to weight the audit findings, both by the level of submission by their MDT in their local cancer network, as well as to the level of assurance of care provided along the patient pathway, (the depth and quality of information).

For the first time we are able to report on the numbers of patients who individually received key elements of care along the patient pathway. This better represents actual patient experience, due to the linkage of these key elements along the pathway. These figures will aid both patient choice and inform commissioners and can be found in [section 4.3](#).

We have summated the level of delivery of five key data items, in [section 4.5](#) by cancer network, which support risk adjustment, with traffic light colour coding at the base of the table reflecting the level of attainment for each item. Significant variation between better submitting and poorer submitting cancer networks can be seen.

In interpreting the audits findings, readers are encouraged to look both at current performance and serial evidence of care delivery.

2.3 What are the gaps in patient care and what should be done to improve care to patients?

2.3.1 Commissioners

- Should use this report, previous Annual Reports and other sources of information such as Peer Review and The National Cancer Patient Experience Survey 2011-12⁶ to look for evidence of excellence in the provision of care, and also areas where evidence of quality and assurance is lacking.
- Should look for evidence of multi-professional care input across the breadth of the patient pathway, and where this is lacking, develop with cancer networks and providers (both secondary and community) definitive plans that these vital aspects of care can be delivered with assurance in the future. This should reflect both the overall percentage delivery of an aspect of multi-professional care delivery, as well as the assurance of how many individual patients received all the elements of care relevant to their pathway.
- Should ensure patients have options for laser surgery or radiotherapy, where appropriate, in early larynx cancer.
- Should ensure that equity of access and the full range of care are maintained for all patients.
- Should ensure that providers of care submit the full audit dataset for analysis by the national audit.

2.3.2 Cancer networks and clinical networks

- Should use the audit to explore clinical variations in the delivery of care.
- Should focus on improving access for radiotherapy and chemoradiotherapy, with appropriate levels of resourcing for head and neck cancer patients.
- Should ensure that adequate access to dental services remains a high priority. Dental assessment and treatment during and following treatment for head and neck cancer remains a key quality agenda item.
- Should ensure that commissioners and providers make appropriate resourcing available. The role of the multi-professional team is well established in the provision of high quality care and this should be maintained.

2.3.3 Providers (Trusts, Foundation Trusts and Local Health Boards)

- Should review their pathology pathways to ensure the timely delivery of services as the pressure on pathology services is well recognised nationally.
- Should review their support to audit submission to ensure that high quality data submission to the national audit is achieved.
- Should ensure that adequate levels of multi-professional care are being delivered throughout the head and neck cancer pathway to every patient and provide assurance of this to patient groups and commissioners.
- Should ensure that where appropriate patient length of stay is kept to a minimum and work with community services to support early discharge where safe.

2.3.4 MDTs

- Are encouraged to use all of these data resources to fully understand their contributions and those of their peers. The audit contains a wealth of data found within the electronic report.
- Should ensure all cases of head and neck cancer are discussed at an appropriate MDT to minimise the "not discussed at MDT" category and investigate those cases recorded as not discussed at MDT.
- Should ensure all post-surgery pathology is discussed at MDT to enable appropriate adjuvant therapy to be initiated.
- Should ensure staging agreement is a key part of every MDT discussion.
- Should ensure all MDT members have a voice in team discussions to ensure that appropriate data along the whole patient pathway is recorded for audit purposes.
- Should encourage surgical members of the MDT to share surgeon specific data on outcomes to support transparency.
- Should contribute information on "current status" to allow disease specific survival to be calculated.

3. Background to head and neck cancer and comparative audit

For a broader introduction please refer to previous National Head and Neck Cancer Audit Annual Reports. Reports can be found on the HSCIC³ website.

3.1 What is head and neck cancer and which anatomic sites does it include?

Head and neck cancer describes neoplasms arising from the mouth (oral cavity), voice box (larynx), throat/upper gullet (pharynx), salivary glands, nose and sinuses, primary bone tumours of the jaw and middle ear. Head and neck cancer accounts for approximately 8100 new cases diagnosed in England and Wales each year^{9,10}. Over 90 per cent of all malignant head and neck tumours are squamous cell carcinomas (SCC)¹¹. For the details of anatomical cancer sites covered by the National Head and Neck Cancer Audit see [Appendix 2](#).

3.1.1 Impact and outcome of head and neck cancer

The disease burden of head and neck cancer is significant. Patients require intensive multimodality treatments and prolonged rehabilitation with long-term support to achieve an adequate recovery. The disease significantly impacts on eating, drinking, voice, swallowing, smell, breathing, appearance, social interaction and work capabilities.

Head and neck cancers have significant mortality, for example, five year relative survival for larynx cancer is around 66 per cent and oral cavity 58 per cent. Better prognosis is associated with early detection, while late presentation and neck node metastasis drastically reduce long term survival.

3.2 Measuring clinical care and the role of standards from professional bodies

Core issues addressed in the National Head and Neck Cancer Audit are:

- Delivery of appropriate primary treatment (including adjuvant therapy) in management of head and neck cancer by a multi-professional team, and delivery of care to agreed standards.
- To assess in more detail, care provided by specialist nurses, dieticians and speech and language therapists.

The British Association of Head and Neck Oncologists (BAHNO)², a multi-professional organisation, with facilitation by the HSCIC³, published standards for the delivery of head and neck cancer care in 2009¹². The standards are referred to in this report and are highlighted in a blue box. These standards can be accessed from the [BAHNO website](#).

3.3 Audit and its links to peer review – Clinical Lines of Enquiry

The National Institute for Health and Clinical Excellence (NICE)¹³ guidance on head and neck cancer in England and Wales was published in November 2004¹⁴. Supporting measures have been subsequently issued and updated¹⁵. It provides recommendations for good practice and areas addressed, include head and neck cancer network and MDTs, referral, diagnosis and assessment, treatment services, post-treatment follow-up and care, prevention, patient centred care and palliative care.

In Wales, National Standards for Head and Neck Cancer Services 2005 define core aspects of service that should be provided for cancer patients¹⁶ and are highlighted in a grey box.

Head and Neck Clinical Lines of Enquiry (CLEs)¹⁷ were introduced into the 2011 – 2012 National Cancer Peer Review process, in order to provide a greater focus within Peer Review on clinical issues.

The 2012 – 2013 metrics for Clinical Lines of Enquiry have been modified to contain six national metrics, all of which are taken from the National Head and Neck Cancer Audit. A list of the updated six national indicators for 2012 can be found in [Appendix 4](#) and they are shown throughout the report in green. Local indicators have been discontinued.

The National Cancer Patient Experience Survey 2010¹⁸ and repeated in 2011 - 2012⁶ acts as a further source of information and will be used as a comparator of more diverse patient outcomes in future reports.

Commissioners of services can now triangulate these different information sources in conjunction with more detailed audit findings to better assess the quality of their local services.

3.4 Improving available information - joint working with the National Cancer Intelligence Network (NCIN)¹⁹ and Public Health England, South East KIT²⁰ - The head and neck cancer online hub

The NCIN Head and Neck Site Specific Clinical Reference Group (SSCRG)²¹ acts both as the linkage between professional bodies and the audit, but also supports a separate work programme to gain more value from combining different data sources into a common repository. It is supported by a lead cancer intelligence team, South East Knowledge and Intelligence Team (SEKIT)²⁰.

SEKIT²⁰ provides long term cumulative analysis of information from the National Head and Neck Cancer Audit and provides leadership for the audit analysis in conjunction with the Welsh Cancer Intelligence and Surveillance Unit.

In 2013 a new online information hub on head and neck cancer has been developed by the SSCRG²¹, OCIU⁴ and NCIN¹⁹ providing access and signposting to a variety of information sources²².

A number of head and neck cancer publications under the NCIN¹⁹ banner can be found under the resources section of the hub. These include reports on incidence¹¹, deprivation, travel times to treatment centres, impact of age, sex and deprivation on surgical intervention and bulletins on different head and neck cancer sites.

3.5 More in depth analysis of the seventh Annual Report Audit cohort

Following closure of the submission period for the seventh Annual Report, a further eight cases and a further 34 treatment episodes were submitted. The latter is likely to reflect cases that had not completed their care pathway at the point of the data submission cut off.

Further more detailed analyses of the seventh and cumulative cohorts included the following;

- Care plan agreed matching care plan delivered
- Recurrence within one, two and three years
- One, two and three year crude survival

The analysis summary of this information will be available on the HSCIC³ website.

3.6 Accessing analyses through the submission year-iView

The HSCIC³ has developed iView²³ – a tool which allows organisations to view their performance against a number of the analyses presented in the Annual Report. Current views include:

- Number of registrations
- T and N staging recorded
- Patient discussed at MDT
- Chest imaging undertaken prior to cancer care plan
- Reported chest imaging prior to MDT
- Pre-treatment speech and swallowing assessment
- Pre-treatment dietetic contact

- Pre-treatment Clinical Nurse Specialist contact
- Clinical Nurse Specialist present at breaking of bad news
- Pre-treatment dental assessment.

Data is extracted from the DAHNO system on a quarterly basis and imported into iView. In order for care providers to see their performance in-year it requires them to enter data into DAHNO in a timely fashion.

3.7 Enhancing the audit submission process

3.7.1 DAHNO system development

DAHNO 2012 was rolled out as planned during the collection year²⁴. All third party suppliers (Somerset Cancer Register, Infoflex and Dendrite) were provided with documentation detailing the new system changes. We are grateful to these companies for their continued support of the audit.

3.7.2 Submission feedback and error reporting

The new DAHNO system now provides users with a number of reports which are designed to help with improving data quality and to provide users with access to all data that has been entered into the system. These reports are:

- CSV file upload log – gives details of any issues with this method of data entry
- Deletion log – gives details of all records which have been deleted. Users themselves can now delete any record which they have entered
- Trust extract – an extract, by record type, of all records a user has entered. This can be used for checking data quality, or for wider local audit activities
- Missing key fields report – a number of key fields have been identified in the MDT discussion, surgery and nursing records. Where data is missing in these fields users are provided with the NHS number of that patient and a link back to the records.

3.7.3 Registering to access the DAHNO 2012 system

The registration process for users is fully electronic and includes the Caldicott Guardian sign-off. A copy of the User Registration form and details of the process can be found on the [audit website](#).

3.8 Changes in the DAHNO system for the ninth Annual Report collection year

The only major change to the DAHNO system is in the nutrition record. This has been reviewed and completely updated to focus on methods and types of nutritional interventions pre, post and during treatment. The revised dataset can be found [here](#). There have been some minor changes to other parts of the dataset, for example, additions to surgical procedures and the ability to capture if a patient declines treatment. A full list can be found on the DAHNO system documentation on the [audit website](#).

3.9 Revisiting the goals of the audit and future outlook

3.9.1 Improving data submission to achieve case mix adjusted survival.

Since its inception the audit has sought to deliver case mix adjustment of outcomes. As identified in previous reports this requires high levels of submission of key items including performance status, co-morbidity and stage across all cancer networks.

Whilst in all three of the above items there have been significant rises in submission, further work is required in a number of cancer networks to achieve the required levels of submission.

The submission of performance status and co-morbidity by Annual Report is shown in the figures below. MDT performance for the current year can be found [here](#).

Figure 3.9.1a
England and Wales average submission of performance status by audit annual reporting year (per cent)

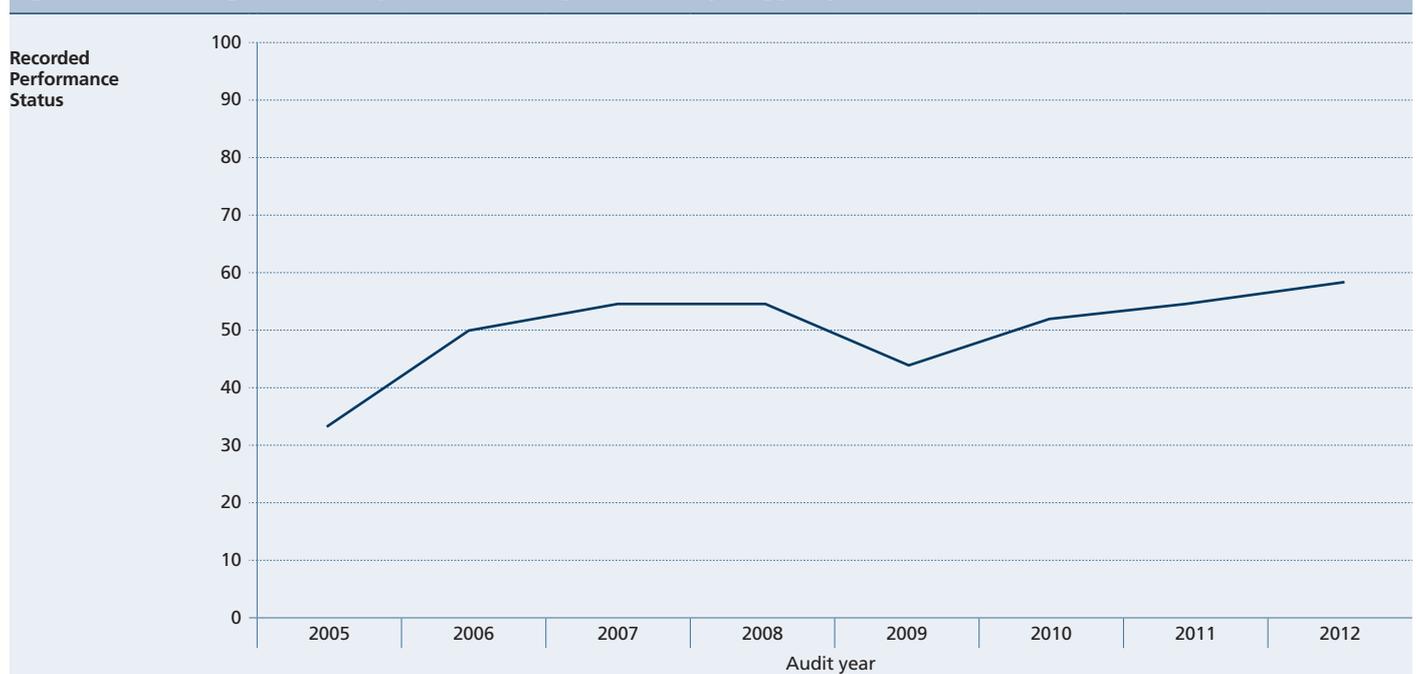
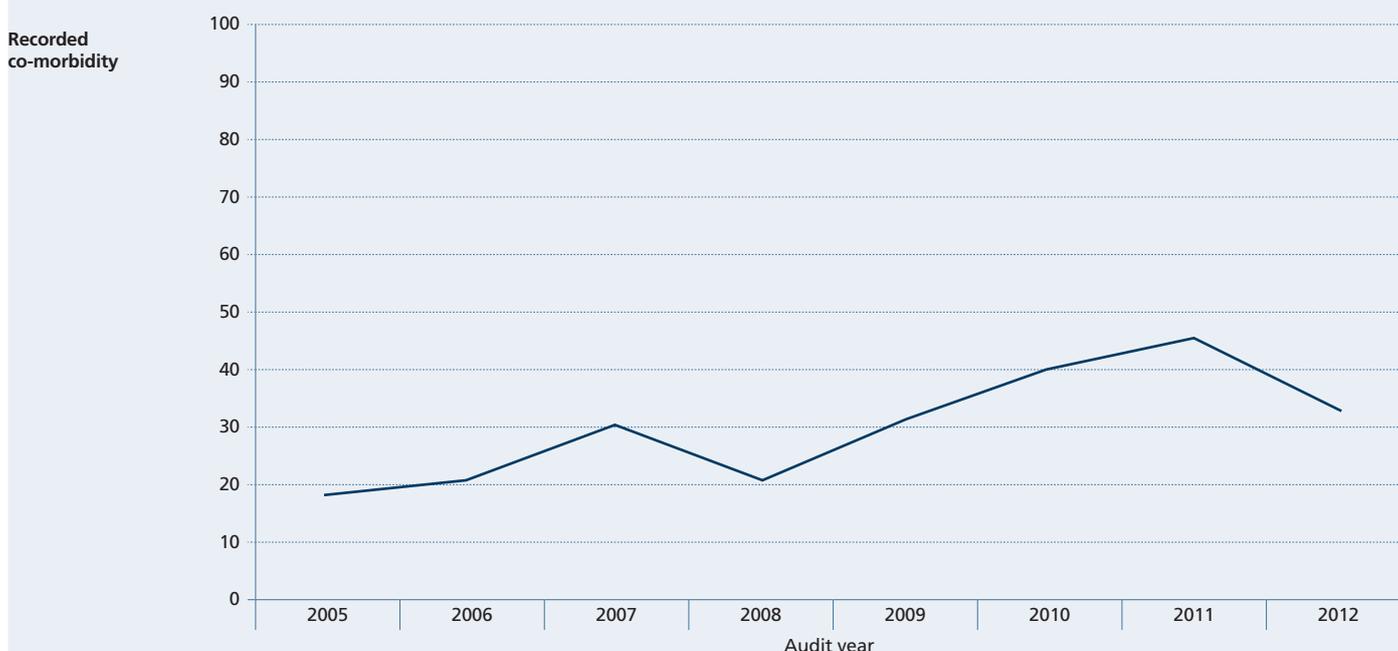


Figure 3.9.1b
England submission of co-morbidity status by audit Annual Report year (per cent)



Pre-treatment staging is now consistently above 75 per cent overall but remains below this level in nine out of 30 cancer networks, limiting the ability to make comparisons between them. The serial return by previous audit year was shown in the seventh Annual Report. There have been a large number of cancer networks consistently making high levels of stage submission, but, again this year, the results show where further work is needed to enable this important case mix adjustment tool to be improved.

The audit will seek to publish a case mix adjustment model from cancer networks with a high level of submission with SEKIT²⁰ and WCISU⁵ during 2013-14.

3.9.2 The contributory role of the Head and Neck SSCRG

The joint DAHNO/NCIN Head and Neck Site Specific Group (Head and Neck SSCRG) contains members representing head and neck professional bodies as well as containing members of charitable patient groups and patient liaison. The professional group representatives are present to both steer the future direction of the audit, as well as reflecting the views of the constituent organisations. Colleagues are encouraged to liaise with these members to enhance the audit process. Details of the current representatives can be found in [Appendix 5](#).

3.9.3 Future opportunities for the audit

The audit is grasping the opportunities presented by integration of information from a variety of sources to supplement directly submitted data. External data for England is now available in a more timely fashion, facilitating in the current audit year cross linking with Hospital Episode Statistics (HES)⁷ and with the Radiotherapy Data Set (RTDS)⁸, which is now a mandated return from all radiotherapy centres in England via automated feeds to the National Cancer Data Repository.

From these sources, confirmation of treatment will enhance the audit process. In future, the use of fractionation information, supplemented by DAHNO audit information, will be used to compare the outcomes of different radiotherapy regimens in selected patient populations.

From April 2012 in England, collection of chemotherapy episode data (Systemic Anti-Cancer Therapy – SACT²⁵) commenced, enhancing the ability to cross link chemoradiotherapy regimens with audit data.

The maturity of the audit not only allows us to provide assurances of the delivery of appropriate and timely multi-professional care, but the accumulated information allows us to promote collaborative working with interested parties to take specific topics for detailed analysis and submission to peer reviewed journals with aspiration of improving the quality of patient care. Interested parties who wish to collaborate with the audit will find more information on the HSCIC³ website in the summer. The first peer reviewed publication will be on the accumulated information on salivary gland cancer.

A number of professional groups have suggested that the audit should collect information on treatment complications (eg flap success rates). To enable this, uniformly accepted definitions are required to ensure consistency of recording as well as agreed standards that would be expected. Professional bodies need to lead on this development work, to which the audit can then respond.

3.9.4 Reporting of surgeon specific data

In December 2012 the NHS Commissioning Board (from 1 April 2013, NHS England) published its planning guidance for 2013 - 2014 - "Everyone counts: Planning for patients 2013 - 2014"²⁶.

Under 'Offer 2', in section 1.6 of the document, the commissioners stated that:

HQIP¹ would develop methodologies with specialist bodies and, in conjunction with NHS Choices, publish activity, clinical quality measures and survival rates for ten national clinical audits, which includes head and neck cancer. Information will be published at individual consultant surgeon level in 2013.

The aim of using consultant level data is to drive up quality, facilitate patient choice and support the requirements of professional revalidation. It also aims to reassure the public that clinical practice is being actively monitored, and that the overall standard of care is very high.

BAHNO Council has considered the request and has agreed to support the initiative, and has defined four potential indicators to be utilised:

- Surgical activity by procedure
- Crude 30 day post-surgery mortality
- Margins in appropriate resective procedures
- Unplanned return to theatre within the same admission.

The National Head and Neck Cancer Audit team will facilitate the initiative by using data submitted from the eighth Annual Report and making it available for surgeons in England to supplement and validate.

4. Findings

4.1 Introduction

The following analysis was performed by the HSCIC³, SEKIT²⁰ and WCISU⁵ on data extracted from the DAHNO application database. The data extract period includes patient records with a date of diagnosis between 1 November 2011 and 31 October 2012. Comparative information presented from previous reports uses published information and tables, and is not from cumulative or updated files unless stated.

Note that the findings reflect analysis of cases submitted to the audit, which may not reflect the actual number of cases seen in provider units.

4.2 Analysed data

8272 patient diagnoses have been included in the analysis following data cleaning, representing data on 8099 patients. This represents 7726 cases from England (104.7 per cent of the estimated case number) and 546 cases from Wales (112.0 per cent of the estimated case number). This report, therefore, represents a comprehensive overview of head and neck cancer care.

The estimate has been taken as the average number of new head and neck primaries that were registered by cancer registries in England and Wales for the period 2009 - 2011. Cancer registry data provides an estimate of new cases, which allows for incident cases not attending at hospital. Although cancer networks serve a geographically defined population, they may also see cross border referrals.

In this year's report, slight changes in the recording of site codes, to include overlapping lesions and unspecified sites, has led to increased capture of cases and oral cavity becoming the most frequent anatomic site. The previously noted rising incidence of oropharynx cancer has again been confirmed. Incidence information from the National Cancer Intelligence Network (NCIN)¹⁹ shows year-on-year a steady increase in incidence of oropharynx cancers, which reflect a rise in cases caused by human papilloma virus⁹.

The level of case ascertainment is lowest in salivary gland cancer at 73.9 per cent and whilst this may reflect differences in the patient pathway (where definitive diagnosis frequently occurs following resective surgery rather than in the diagnostic workup), this has increased from 63.5 per cent in the last report.

170 patients were recorded with more than one tumour in the index period.

4.2.1 Is data quality improving?

This year's data confirms a continued trend of a broader submission of information throughout the patients' journey.

For over 84.3 per cent of the total patients, there is a record of the actual treatment provided (seventh Annual Report 75 per cent). In England this figure was 85.0 per cent and in Wales 73.4 per cent.

Of the total patients registered it would be expected that up to eight per cent of them would not have reached the point in their pathway where treatment would be agreed, and when this adjustment is applied between 84 and 92 per cent of patients have a treatment record.

As will be shown later in the report, there has been a further significant increase in the assurance provided in a number of aspects of multi-professional care.

4.2.2 Which subsites of head and neck cancer have been reported?

8272 cases were presented for analysis, with a date of diagnosis between 1 November 2011 and 31 October 2012. These comprised 2529 oral cavity cancers, 2303 oropharyngeal cancers, 1900 laryngeal cancers, 456 hypopharyngeal cancers, 444 major salivary gland cancers 364 nasal cavity and sinus, 172 nasopharyngeal cancers and 104 bone tumours (mandible and maxilla).

Overall cumulative submissions have now exceeded 36,900 from all eight Annual Reports.

A detailed breakdown of registrations by anatomic subsite is included in [Appendix 2](#).

For the first time, we have included nasal cavity and sinus tumours as well as bone tumours of the mandible and maxilla. The reported bone tumour cases when analysed contain high numbers where the pathology is squamous cell carcinoma, suggesting erosion into the bone rather than tumours arising *de novo* in bone. For future submissions tumours should be more accurately recorded to the site of origin.

For this report we collected information on middle ear tumours but upon analysis many of these reflect problems with ICD site coding in that some units submitted high numbers, suggesting the tumours had arisen on the pinna rather than middle ear. This group has therefore been excluded from this report.

4.2.3 Which head and neck cancer histological diagnoses have been reported?

Histological diagnosis has been submitted for 81.6 per cent of total cases. An overview of pathological diagnoses submitted is summarised below:

Table 4.2.3
Summary of pathological diagnoses

	M8020/3	M8041/3	M8070/3	M8071/3	M8051/3	M8072/3	SCC VAR	M8140/3	M8200/3	M8430/3	M8550/3	M8941/3	SAL VAR	Other	Blank	Total
	Undifferentiated carcinoma	Small cell carcinoma	Squamous ca (NOS)	Keratinising squamous carcinoma	Verrucous carcinoma	Non-keratinising squamous carcinoma	Squamous cell carcinoma variants (see below box)	Adeno-carcinoma NOS	Adenoid cystic carcinoma	Muco-epidermoid carcinoma	Acinic cell carcinoma	Carcinoma ex pleomorphic adenoma	Other salivary variants (see below box)			
Total	68	21	5746	305	18	83	30	109	105	25	59	22	65	98	1518	8272

Squamous cell carcinoma variants		Other salivary variants					
Adenoid squamous carcinoma	M8075/3	Salivary duct carcinoma	M8500/3	Adeno-squamous carcinoma	M8560/3	Basal cell adenocarcinoma	M8147/3
Spindle cell squamous carcinoma	M8074/3	Polymorphous low grade adenocarcinoma	M8525/3	Epithelial-myoepithelial carcinoma	M8562/3	Mucinous adenocarcinoma	M8480/3

4.2.3 Histological diagnosis by morphology

Detail of histological diagnosis can be found in [Appendix 3](#).

Where histological diagnosis is recorded, as expected in larynx, oral cavity, oropharynx and hypopharynx, squamous cell carcinoma not otherwise specified (M80703) predominates, making up 89.5 per cent of cases at these sites.

In nasal cavity and sinus, where histological diagnosis is recorded, squamous cell carcinoma not otherwise specified (NOS) was the commonest pathology (68.3 per cent); adenocarcinoma 9.3 per cent, olfactory neuroblastoma 3.5 per cent and adenoid cystic carcinoma 3.1 per cent.

4.3 The ideal patient pathway

The complex care pathway associated with head and neck cancer contains multiple components, all contributing to the patient experience and quality of care. It is therefore possible to identify an ideal patient pathway containing key defined aspects of care.

In this report we have analysed the following aspects as representing the ideal patient pathway for surgical patients:

- Pre-treatment seen by Clinical Nurse Specialist (CNS)
- Pre-treatment nutritional assessment
- Pre-treatment speech and language therapy (SALT) assessment
- Pre-treatment dental assessment
- Pre-treatment chest CT/CXR
- Discussed at Multidisciplinary Team (MDT)
- Resective pathology discussed at MDT

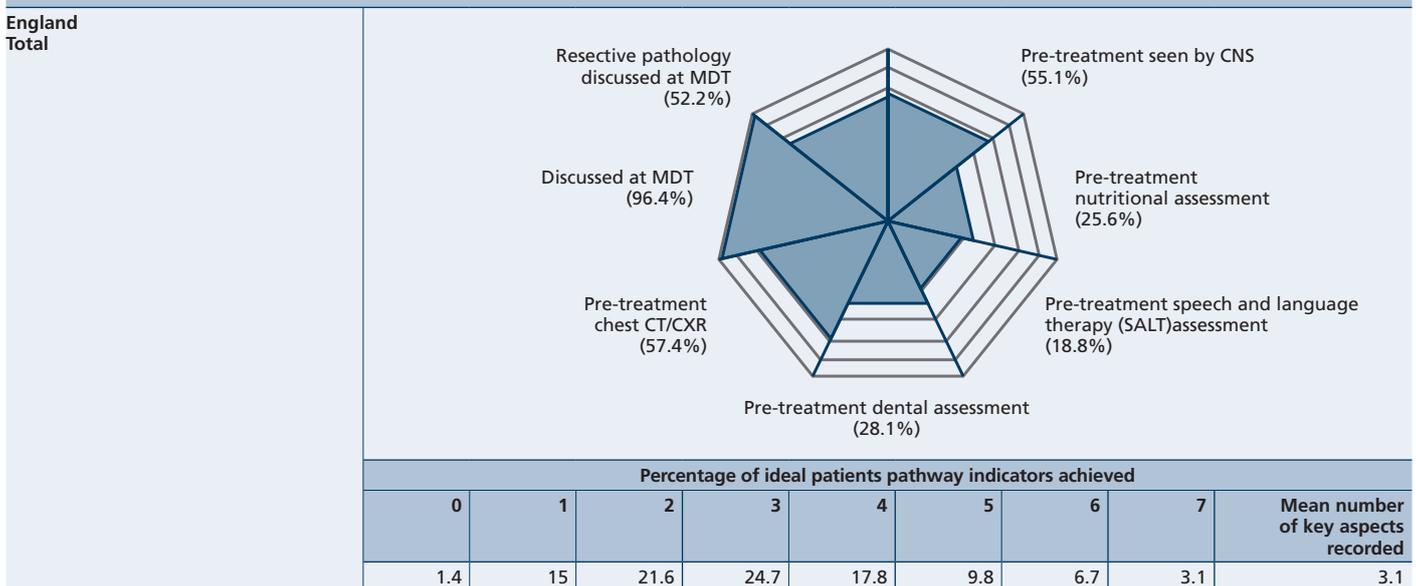
In an ideal patient pathway each patient would receive each of the seven aspects of care. We have reported this as a distribution of patients achieving seven or fewer aspects of the pathway.

In reporting the findings we have presented the data in two different ways. The percentage of each individual aspect achieved by cancer networks is shown in a radar chart where each pathway aspect is represented by a chart sector divided into 10 per cent bands. The radar chart presents the percentage of surgical patients recorded as having resective pathology discussed at MDT, whereas the other six aspects are a percentage of all the cancer patients submitted to audit. Below the radar chart we have shown the percentage of patients achieving between zero and seven aspects of the pathway in a network. A higher percentage of patients achieving seven aspects demonstrates a greater compliance with the ideal patient pathway.

All cancer network radar charts can be found in [Appendix 7](#).

For a more detailed insight into aspects of multi-professional care please see [section 4.6](#).

Figure 4.3
Percentage of each aspect of ideal patient pathway achieved for England



4.4 Patient pathways

4.4.1 Treatment of early stage laryngeal cancer

Early larynx cancer encompasses T1 N0 and T2 N0 squamous carcinoma. ENT-UK Head and Neck believe that all patients with early larynx cancer in the UK should be given the choice of radiotherapy or endoscopic surgery for suitable cancers²⁷.

For more details on the different impacts of radiotherapy and microlaryngeal endoscopic resection please refer to the [sixth](#) and [seventh](#) Annual Reports.

In the seventh Annual Report, variability was seen by cancer network and care provider in the availability of endoscopic laser excision. The distribution of cases recorded as receiving radiotherapy or endolaryngeal resection appeared to be driven by MDT preference. In a number of cancer networks all early larynx cases were recorded as having received radiotherapy as the first definitive treatment.

For the eighth Annual Report, we have looked at individual MDT and cancer network treatments for early laryngeal cancer. Each cancer network is required under Improving Outcomes Guidance to have agreed treatment guidelines, which MDTs are expected to follow¹⁴. Cumulative analysis of cases submitted since the inception of the audit has been undertaken to observe the long-term trends in treatment.

- 813 cases of early laryngeal cancer were submitted, (756 in the seventh Annual Report, cumulative total 4045) 699 had treatment recorded. Of these, radiotherapy accounted for 50.9 per cent compared to endolaryngeal resection (43.5 per cent), showing a significant increase in the proportion of patients undergoing surgery. In the two years since the sixth Annual Report, rates of surgery for early laryngeal cancer have doubled. This provides greater assurance that patients are being offered choice in the majority of MDTs.

- A wide variation is again noted between care providers and cancer networks in the distribution of cases recorded as receiving radiotherapy or endolaryngeal resection. In a number of cancer networks nearly all early larynx cases are recorded as having received radiotherapy as the first definitive treatment:
 - Kent and Medway
 - South West London
 - Surrey, West Sussex and Hants.
- In a number of cancer networks nearly all patients are described as having surgery as their primary treatment:
 - Humber and Yorkshire Coast
 - Sussex.
- For Sussex this represents a significant change in recorded treatment as no cases were recorded as undergoing surgery last year.
- Across the Welsh cancer networks a significantly greater number of patients are recorded as having endolaryngeal surgery (22 patients compared to only two patients last year). Radiotherapy was used in 32 patients. The overall percentage split between radiotherapy and surgery is now identical to that seen in England.
- This year 19 cancer networks and 24 centres treated five or more patients by endolaryngeal resection compared to eight and nine last year.
- The audit cannot examine whether the cases submitted were suitable for either treatment modality.

Table 4.4.1
Larynx cases where the first treatment was microlaryngeal resection or radiotherapy

Network Name	Number first treated by surgery	Number first treated by radiotherapy	Number having other treatment first	Number having no treatment	Total diagnoses	% first treated by surgery	% first treated by radiotherapy	% having other treatment first	% having no treatment
3 Counties	2	11	0	1	14	14.3	78.6	0.0	7.1
Anglia	13	16	1	10	40	32.5	40.0	2.5	25.0
Arden	2	6	0	5	13	15.4	46.2	0.0	38.5
Avon, Somerset and Wiltshire	17	8	1		26	65.4	30.8	3.8	0.0
Central South Coast	5	11	1	8	25	20.0	44.0	4.0	32.0
Dorset	3	12	1	2	18	16.7	66.7	5.6	11.1
East Midlands	18	16	12	11	57	31.6	28.1	21.1	19.3
Essex	7	20	0	4	31	22.6	64.5	0.0	12.9
Greater Manchester and Cheshire	9	25	2	18	54	16.7	46.3	3.7	33.3
Greater Midlands	8	17	4	1	30	26.7	56.7	13.3	3.3
Humber and Yorkshire Coast	14	2	0		16	87.5	12.5	0.0	0.0
Kent and Medway	1	8	2		11	9.1	72.7	18.2	0.0
Lancashire and South Cumbria	12	13	2	3	30	40.0	43.3	6.7	10.0
Merseyside and Cheshire	14	25	1	4	44	31.8	56.8	2.3	9.1
Mount Vernon	2	3	0	1	6	33.3	50.0	0.0	16.7
North East London	13	7	0		20	65.0	35.0	0.0	0.0
North London	10	8	0	2	20	50.0	40.0	0.0	10.0
North of England	35	21	5	2	63	55.6	33.3	7.9	3.2
North Trent	25	9	0	14	48	52.1	18.8	0.0	29.2
North West London	3	2	0	1	6	50.0	33.3	0.0	16.7
Pan Birmingham	18	6	3	1	28	64.3	21.4	10.7	3.6
Peninsula	3	18	1	3	25	12.0	72.0	4.0	12.0
South East London		1	0		1	0.0	100.0	0.0	0.0
South West London		16	0	7	23	0.0	69.6	0.0	30.4
Surrey West Sussex and Hants	1	12	0	1	14	7.1	85.7	0.0	7.1
Sussex	20	1	0	2	23	87.0	4.3	0.0	8.7
Thames Valley	1	6	0		7	14.3	85.7	0.0	0.0
Yorkshire	26	24	2		52	50.0	46.2	3.8	0.0
England	282	324	38	101	745	37.9	43.5	5.1	13.6
North Wales	5	12	0	2	19	26.3	63.2	0.0	10.5
South Wales	17	20	1	11	49	34.7	40.8	2.0	22.4
Wales	22	32	1	13	68	32.4	47.1	1.5	19.1
England and Wales	304	356	39	114	813	37.4	43.8	4.8	14.0

From the submitted data it appears that overall throughout England and Wales, patients are receiving either endolaryngeal resection or radiotherapy on an almost 50:50 split. However, when analysing results by cancer network it is apparent that bias still appears to exist in some centres. This is confirmed when looking at cumulative information trends in those cancer networks with established bias and may be worthy of investigation into the reasons for the persistence of these differences.

Commissioners should examine whether patients are given the choice of either treatment modality in appropriate circumstances, and that local facilities and training are in place to facilitate this.

4.4.2 Oral cavity – cancer of tongue

The oral tongue is the most common oral sub site for squamous cell cancer to develop. Of the 2529 cases of oral cancer submitted this year 1157 were identified in the oral tongue (45.7 per cent of oral cavity total) with a further 680 cases in the tongue base (defined anatomically in the oropharynx).

This section relates to those 1157 cases of cancer affecting the oral tongue (anterior two thirds). The primary management of these tumours is largely surgical. Anecdotal evidence suggests that subtle changes in surgical techniques have occurred by an increased use of laser excision, to improve functional outcomes²⁸. Where tongue tumours extend into the floor of mouth a through and through excision may be carried out requiring reconstruction, often with a free tissue transfer.

Management of the neck remains controversial with no level one evidence to determine the most appropriate management of the N0 neck. With the incidence of occult metastasis around 20 per cent in clinically and radiographically negative necks, many teams prefer to carry out a prophylactic staging neck dissection. A Medical Research Council (MRC) funded trial (SEND) is currently trying to identify whether it is possible to define criteria to select patients requiring elective neck dissection²⁹. The increasing accumulation of cases and their treatment within the audit provides an additional opportunity to investigate this topic in great detail outside a formal clinical trial.

The quality of surgical data in the sixth and seventh Annual Report cohorts was insufficient to fully inform the debate.

For the eighth Annual Report the quality of submitted surgical information has improved and the audit has developed techniques that allow matching with Hospital Episode Statistics (HES)⁷ data and also matching with the Radiotherapy Data Set (RTDS)⁸ to enhance the understanding of care delivered. At the time of writing, we are able to present the preliminary findings but as part of a package of more detailed analyses of information in the clinical pathways, the aim is to publish this in a peer reviewed journal.

- Of the 1157 cases of cancer affecting the oral tongue there are 591 records of surgery representing 51.1 per cent of cases. In addition 47 patients were indicated as having primary radiotherapy, 44 from audit data with RTDS⁸ only adding three further cases. This demonstrates that the audit appears to accurately record patients having radiotherapy as primary treatment despite the suggestion that we were missing data on this important treatment modality.
- 94 patients had either chemotherapy or chemoradiotherapy as first treatment (8.1 per cent).
- Of those tongue tumours staged pre-treatment 41.3 per cent were T1. After pathological staging 27 tumours were upstaged from T1 and 41 were down staged to T1 from a higher T category. 150 T1 tumours did not have post-surgery staging recorded.
- 64.8 per cent of patients undergoing surgery were staged pre-operatively as N0 (as last year). 9.4 per cent (59 patients) were subsequently upstaged to N+. This represents an occult metastasis rate of at least 1:10 indicating that even with pre-treatment radiological staging, assessment of the neck can be uncertain³⁰. Last year, with less surgical data, this figure was 1:5.
- However, there was no record of pN stage in 256 patients making further interpretation difficult.
- Nine per cent (28 patients) staged N+ pre-treatment were down staged to N0 following surgery.
- 591 patients were recorded as having tongue resection procedures, of which 14 were recorded as total glossectomy. 343 patients had a recorded neck dissection, of which 82 were comprehensive neck dissections, 25 were modified and 236 were selective. This gives a neck dissection percentage for operated tongue tumours of 58 per cent. The majority (105) of selective neck dissections (SND) included levels one to four in the dissection, 99 recorded only SND where levels dissected were not defined.
- From the current data, it has not been possible to make a clear assessment of laser procedures used to resect tongue lesions. There are recognised coding issues in Office of Population Censuses and Surveys Classification (OPCS) with regard to the coding of laser excisions, which are currently being examined by NCIN¹⁹.
- There were 74 records of a reconstructive procedure of which 31 were with a radial forearm free flap. The addition of HES⁷ data added a further 94 partial glossectomies, 17 unspecified reconstructive procedures, 49 neck dissections and a further 15 radial forearm free flaps, one pectoralis major flap and one rectus abdominus free flap, adding significantly to the depth and quality of surgical data retrieved.
- The addition of HES⁷ data gave a total of 685 tongue procedures and 392 neck dissections giving an overall neck dissection rate of 57.2 per cent – equivalent to the DAHNO only data.
- In breaking down surgical procedures carried out for T1 T2 N0 tongue cancer, there were 200 neck dissections carried out of which 59 were described as either comprehensive or modified. 51 radial forearm free flaps were recorded for these early stage tongue tumours.
- 120 patients are recorded in DAHNO as having adjuvant radiotherapy following surgery for their tongue tumour. 47 patients are recorded as having primary radiotherapy for their tongue tumour.
- 356 patients were recorded as having a speech and language therapy (SALT) contact (30.8 per cent) and 461 dietetic input (39.8 per cent).

4.4.3 Oropharynx cancer

- For this report we have looked in greater detail at those patients receiving surgery as a primary treatment for a diagnosis of oropharyngeal cancer and have identified variation across cancer networks between surgery and non-surgical treatments.
- The depth of reporting of surgical procedures has improved in both volume and identification of treatment centre. We have also linked this data to both RTDS⁸ and HES⁷ sources for patients in England to further improve accuracy.

- Of 2303 cases of oropharynx cancer 1792 had curative treatment of which the majority 951 (53 per cent) had non-surgical treatment as their first treatment. Adding RTDS⁸ data did not change surgery as the first recorded treatment, indicating a high degree of accuracy in DAHNO data recording.
- In looking at surgical procedures, the most commonly recorded procedure was neck dissection, with excision of tonsil as the next most common. Major open resective and reconstructive surgery was evident in at least 39 patients when information from DAHNO and HES⁷ were combined.
- When supplementing the 272 DAHNO recorded neck dissections with HES⁷ data a further 76 neck dissections were identified. The limitations of the current OPCS coding means that selective neck dissections and their subtypes cannot be determined from HES⁷ data, which codes all dissections as comprehensive. The audit, in conjunction with NCIN¹⁹, has liaised with OPCS to request a more sensitive coding structure.
- There is a rising trend in the UK to utilise trans oral laser resection as first treatment in oropharynx cancer. Once again limitations in OPCS coding make interpretation of excision of tonsil and laser microlaryngoscopy difficult, as a prefix Y code is required to clearly identify therapeutic laser excision of tonsil. It is important that these techniques can be accurately recorded to allow appropriate assessment of outcome.
- There is a significant variation of surgery being used as primary treatment between different cancer networks. The highest percentage was seen in Merseyside and Cheshire (30.9 per cent) where they have implemented the concept of trans-oral resection of oropharyngeal tumours, compared to Mount Vernon and Dorset (15.6 and 7.6 per cent respectively).
- By using reconstruction as a marker for major open surgery the majority of cancer networks appear to only have very low numbers of cases treated by this methodology. The highest number was seen in Yorkshire where at least five cases were treated with major open surgery, but this still only equates to low numbers of cases when compared to those patients having other surgery or chemoradiotherapy.

Table 4.4.3
Oropharynx cases by cancer network where the first treatment was surgery, radiotherapy or chemoradiotherapy

Network Name (MDT)	First Definitive Treatment	
	Surgery	Non surgery
3 Counties	26	20
Anglia	29	70
Arden	9	16
Avon, Somerset and Wiltshire	52	33
Central South Coast	11	57
Dorset	7	36
East Midlands	57	36
Essex	19	21
Greater Manchester and Cheshire	53	52
Greater Midlands	25	43
Humber and Yorkshire Coast	17	19
Kent and Medway	21	36
Lancashire and South Cumbria	67	28
Merseyside and Cheshire	88	35
Mount Vernon	10	9
North East London	20	8
North London	13	20
North of England	57	61
North Trent	5	38
North West London	9	11
Pan Birmingham	25	33
Peninsula	41	31
South East London	7	34
South West London	8	31
Surrey West Sussex and Hants	17	40
Sussex	26	16
Thames Valley	40	13
Yorkshire	37	58
England Total	796	905
North Wales	15	14
South Wales	30	32
Wales Total	45	46
England and Wales Total	841	951

4.4.4 Advanced laryngeal cancer

Advanced stage laryngeal cancer encompasses higher T category tumours (T3 and T4) and any larynx cancers with nodes or distant metastases (eg T2 N1). Previous reports have described the surgical and non-surgical treatment modalities applicable.

The audit has sought to evaluate whether there is evidence of increasing use of non-surgical chemoradiotherapy protocols, (so called laryngeal preservation treatments), and to study variation in practice across MDTs, in particular in the treatment of T3 glottic cancer.

Of 1900 cases of larynx cancer submitted 665 (35.0 per cent) cases had sufficient staging completeness to be classified as advanced stage cancer.

- 665 cases were staged as advanced and 324 were node positive. M1 staging was present in 41 cases of laryngeal cancer. These are broadly similar in distribution to the seventh Annual Report showing a consistency in the population studied.
- In comparison to the seventh Annual Report, for those patients actively treated, similar numbers had surgical (241 cases) or non-surgical treatment (234 cases) and 32 cases had only palliative treatment. However, of non-surgical cases, the frequency of radiotherapy only has declined (40.6 per cent compared to 55.6 per cent in seventh Annual Report), and there has been a significant increase in cases treated by chemoradiotherapy (107 cases - 45.7 per cent, compared to 46 cases) and a further 32 were recorded as having chemotherapy as first treatment. Overall, organ sparing chemoradiotherapy protocols now account for nearly half of the non-surgical treatments in this group of patients, an increase from 20 per cent seen in the seventh Annual Report. The figure may be even higher as in those stated as having chemotherapy alone it is not clear whether this represents neoadjuvant chemotherapy prior to other treatments or is a data quality issue, where chemoradiotherapy is not recorded accurately.
- There is a lack of information on the longer-term function of the larynx following chemoradiotherapy on both speech and swallowing function³¹. Further research is needed to investigate the impact of this shift in practice to understand if it produces improved survival and what the quality of life is in survivors.
- Comparison with RTDS⁸ added only one further case with chemoradiotherapy but did show additional dates of treatment. Confirming again the high quality of DAHNO treatment data in the current collection year.

- Detailed analysis by cancer network is difficult due to small numbers of cases being treated by these two modalities. However, in 18 of 30 cancer networks non-surgical treatment was more common, whilst in 12 cancer networks surgery was more frequent.
- Assessment of cumulative advanced larynx cancers from 2004 – 2012 (1994 cases with active treatment recorded) shows that the cancer networks where surgery was more frequent are consistent over time suggesting established patterns of treatment selection.

4.4.4.1 Advanced stage laryngeal cancer - T3 glottic cancer

- For this analysis both tumours that were T3 N0 and T3 N+ glottic cancers were included, totalling 199 cases.
- In the active treatment group (154 cases), non-surgical modalities (89 cases) were more common than surgery (65 cases) as first treatment, with 42 having radiotherapy and 39 chemoradiotherapy. In a further eight patients, chemotherapy was recorded as a first treatment and it is possible that this was part of the chemoradiotherapy regimen.
- In the non-surgical group the numbers of T3 glottic cancers having primary radiotherapy is now equalled by those undergoing chemoradiotherapy as part of organ preservation protocols. In the seventh Annual Report the proportion of non-surgical cases treated by radiotherapy compared to chemoradiotherapy was three to one.

Where post-surgical histology is available, 10.9 per cent of T3 glottic cancers were upstaged to T4, which needs to be considered when determining the most appropriate treatment.

- Numbers by cancer network are too small to examine variation in treatment patterns, but it is noted that the cancer networks with higher proportions of patients having chemoradiotherapy are centred around the Midlands. It will require collation over successive audit cohorts to progress this analysis further. Cancer networks' cumulative treatment data will be reconsidered in the ninth Annual Report.
- From this year's data there is now evidence to support the notion that in T3 glottic carcinoma chemoradiotherapy protocols are rising in frequency, supporting previous anecdotal reporting by clinical teams.

4.4.4.2 What have we learned about nasal cavity and sinus tumours?

Information is available for the first time on nasal cavity and sinus cancers.

All cancer networks contributed some cases of nasal cavity and sinus cancer, with Anglia having a significantly greater number of cases (34 cases) than any other. However, there was histological confirmation of malignant tumour in only 18 patients.

Site

364 cases were submitted, of which 201 cases were from the nasal cavity (55.2 per cent), 119 of the maxillary antrum (32.7 per cent) and the remainder from the other accessory sinuses.

Histological diagnosis

As expected³², the histological type was predominated by squamous cell carcinoma and its variants (191 cases), followed by adenocarcinoma (24 cases), and the rarer histologies including olfactory neuroblastoma (nine cases) and adenoidcystic carcinoma (eight cases). 105 cases had no recorded histological diagnosis. The audit has not collected information on mucosal melanoma as this has a biological behaviour that is different to all other nasal cavity and sinus tumours.

Stage

Many nasal and sinus cavity tumours present late as the disease can be advanced before symptoms become apparent. This year 19.0 per cent of the cases had sufficient staging information to classify as early, 42.0 per cent as late the majority being T4 disease and the remainder unknown.

11.4 per cent were node positive almost equally divided between nasal cavity and maxillary sinus primary sites, and 1.7 per cent had distant metastatic disease at presentation.

Referral

The majority of patients in England were referred equally via the urgent or two week wait pathway, (28.9 per cent) but 41.0 per cent had a routine referral, likely reflecting the insidious nature of symptoms in this disease.

Treatment

128 patients underwent surgery with curative intent (35.2 per cent). Some form of maxillectomy was carried out in 28 patients, 14 total rhinectomies, eight partial rhinectomies and five septectomies were also recorded. A variety of reconstructive procedures were also identified.

There were no deaths within 30 days of surgery and 17 deaths within 90 days of radiotherapy.

Crude survival

The in-year crude mortality for this cohort was 15.1 per cent.

4.5 Where head and neck cancer care happens and the recording of risk adjustment factors.

We have compacted this section following positive feedback on the summary chart, presented last year as an appendix. The chart displays case ascertainment as a percentage of estimate, pre-treatment TNM staging and the recording of performance status and co-morbidity by cancer network.

Table 4.5
Recording of risk adjustment factors – data quality by cancer network

Network	Case ascertainment % of estimate	% Pre-treatment TandN staging	% Cases with recorded performance status 0-4	% Cases with co-morbidity status	% All 3 of PS, co-morbidity and staging	Post-surgical staging
3 Counties	●	73.3 ▲	64.4 ■	24.7 ▲	14.6 ▲	61.9 ■
Anglia	●	94.5 ●	76.9 ●	29.7 ▲	31.4 ▲	7.7 ▲
Arden	●	83.8 ■	66.4 ■	8.2 ▲	7.1 ▲	76.7 ●
Avon, Somerset and Wiltshire	●	80.3 ■	28.6 ▲	7.1 ▲	7.0 ▲	57.1 ■
Central South Coast	●	93.2 ●	86.8 ●	78.5 ●	73.8 ■	74.6 ■
Dorset	●	100.0 ●	94.8 ●	89.7 ●	97.5 ●	100.0 ●
East Midlands	▲	85.9 ●	71.5 ■	43.4 ▲	27.8 ▲	73.7 ■
Essex	●	98.0 ●	96.3 ●	94.7 ●	98.8 ●	82.4 ●
Greater Manchester and Cheshire	●	84.3 ■	64.6 ■	13.8 ▲	5.9 ▲	86.3 ●
Greater Midlands	●	79.9 ■	70.8 ■	53.5 ■	58.1 ■	86.2 ●
Humber and Yorkshire Coast	●	84.6 ■	65.8 ■	58.4 ■	55.4 ■	63.4 ■
Kent and Medway	●	54.2 ▲	34.7 ▲	0.9 ▲	1.0 ▲	47.6 ▲
Lancashire and South Cumbria	●	67.4 ▲	35.5 ▲	0.0 ▲	0.0 ▲	61.1 ■
Merseyside and Cheshire	●	76.7 ■	71.9 ■	0.7 ▲	0.5 ▲	79.2 ●
Mount Vernon	▲	65.1 ▲	13.3 ▲	8.0 ▲	7.7 ▲	86.0 ●
North East London	●	72.9 ▲	3.2 ▲	11.6 ▲	1.4 ▲	79.5 ●
North London	●	92.0 ●	90.8 ●	91.3 ●	93.6 ●	94.1 ●
North of England	●	95.8 ●	84.1 ●	90.2 ●	86.4 ●	85.9 ●
North Trent	●	98.6 ●	96.4 ●	35.5 ▲	38.6 ▲	94.5 ●
North West London	▲	33.5 ▲	4.7 ▲	4.7 ▲	4.4 ▲	40.0 ▲
Pan Birmingham	●	88.9 ●	48.8 ▲	20.0 ▲	14.6 ▲	92.4 ●
Peninsula	●	87.6 ●	58.7 ■	18.2 ▲	17.3 ▲	66.4 ■
South East London	●	26.2 ▲	0.0 ▲	0.0 ▲	0.0 ▲	30.0 ▲
South West London	●	92.3 ●	98.9 ●	98.3 ●	100.0 ●	98.3 ●
Surrey West Sussex and Hants	●	59.4 ▲	2.1 ▲	1.6 ▲	0.6 ▲	43.6 ▲
Sussex	●	94.2 ●	87.7 ●	35.8 ▲	36.4 ▲	43.6 ▲
Thames Valley	●	13.3 ▲	9.4 ▲	0.4 ▲	0.0 ▲	50.0 ■
Yorkshire	●	86.9 ●	90.7 ●	64.5 ■	63.8 ■	50.7 ■
England		78.9	61.4	35.2	33.1	70.2
North Wales	●	88.3 ●	35.2 ▲			4.9 ▲
South Wales	●	93.8 ●	22.0 ▲			69.3 ■
Wales		92.6	24.7			57.8
England and Wales		79.9	58.9			69.3

Key	Key	Key	Key	Key	Key
< 80% ▲	<75% ▲	<50% ▲	<50% ▲	<50% ▲	<50% ▲
	75 to 85% ■	50 to 75% ■			
>80% ●	>85% ●	>75% ●	>75% ●	>75% ●	>75% ●

4.5.1 Estimate of total number of patients with new head and neck primaries of the larynx, oral cavity, pharynx, major salivary glands, nasal cavity, sinuses and bone in the index period by cancer network

The estimate has been taken as the average number of new head and neck primaries that were registered by cancer registries in England and Wales for the period 2009 - 2011.

Cancer registry data provides an estimate of new cases, which allows for incident cases not attending at hospital. Although cancer networks serve a geographically defined population, they may also see cross border referrals.

DAHNO case ascertainment shows 103.4 per cent of the expected number of cases.

The estimate of total number of patients with new head and neck primaries in the index period by cancer network can be found [here](#).

4.5.1.1 Number of patients registered with new head and neck primaries of the larynx, oral cavity, oropharynx, hypopharynx, nasopharynx and major salivary glands in the index period by cancer network

Two networks submitted less than 80 per cent of estimated cases, East Midlands and North West London.

A number of high performing cancer networks showed submissions significantly higher than estimate. The reasons for this remain unclear. Whilst cross boundary migration can elevate numbers of cases, in those with the highest levels above estimate adjacent cancer networks also show high levels.

Cases submitted by cancer network ranged from 163.7 per cent (Humber and Yorkshire Coast) to 78.8 per cent (East Midlands).

4.5.2 Submission by cancer network, MDT and first diagnosing care provider of patients with new head and neck primaries in the index period

A number of organisations submit data on behalf of other care providers and these can be seen [here](#) in the participation tables.

For the first time we have also reported submissions by multi-disciplinary team (MDT) and these can be seen [here](#). However, it can be seen that a number of cases cannot be attributed to a specific care provider, as the linked MDT field has not been completed. We would encourage completion of this to allow patterns of treatment to be better interpreted.

We are delighted that for the first time all units providing head and neck cancer care have submitted data this year.

4.6 Are factors relevant to risk adjustment being recorded?

4.6.1 Where is the audit in recording the distribution of stage?

- Recording of staging deteriorated slightly with 79.9 per cent of registered cases, where TNM was applicable having a T and N category recorded, (last year this was 81.2 per cent).
- In Wales 92.6 per cent of patients had stage recorded and in England the figure was 78.9 per cent.
- More detailed information is available by [cancer network](#) and [MDT](#) can be found [here](#).
- Staging is a defining parameter, which facilitates a description of disease extent in a uniform manner, to allow valid comparison between cases. We encourage teams to achieve high levels of data submission to facilitate risk adjustment.

	2004-05*	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Diagnoses submitted	1042	1443	2035	4038	5597	6458	6879	8147**
Cases with T and N staging recorded	673	776	1550	2936	3942	5079	5583	6506
Per cent of staging	64.8	53.8	76.2	72.7	70.4	79	81.2	79.9

* England only
** Diagnosis where cancer site is TNM applicable

Recording cancer site and accurate stage is a key medical responsibility, with best practice suggesting that this should be clearly documented and captured at the MDT. Staging remains a key influence on outcome. It is important that this improves to achieve 100 per cent of cases staged, to allow valid comparisons to be made. (BAHNO Standard)¹²

- In 13 English cancer networks 85 per cent or greater recording of TNM category was achieved with Dorset achieving 100 per cent of T, N and M Staging. The two Welsh cancer networks achieved 89 per cent or higher.
- Six cancer networks had poor recording of staging:
 - Kent and Medway
 - Mount Vernon
 - North West London
 - South East London
 - Surrey, West Sussex and Hants
 - Thames Valley.

From the staging it has been possible to categorise 76.7 per cent of submissions into early or late stage disease. More detailed information by subsite of cases that are N+ve can be found [here](#). Final pre-treatment M category can be found [here](#), and final pre-treatment stage recorded can be found [here](#). This acts as a useful source of information to support treatment planning and education³³.

- **It is important that the use of Tx and Nx be avoided wherever possible. Staging remains a key influence on outcome. It is important that this improves to achieve 100 per cent of cases staged in any high quality database collection, to allow valid comparisons to be made.**

Percentage of new cases of head and neck cancer discussed at MDT where recorded T, N and M Staging category is evident. (CLE 2)

4.6.1.2 Post-surgical staging

The recording of post-surgical stage has improved this year, with 69.3 per cent of cases having complete pre and post-surgery stage. In England, this reached 70.2 per cent, whilst in Wales this was 57.8 per cent. Nine cancer networks achieved over 85 per cent recording of pre and post treatment stage (six in the seventh Annual Report). The performance of cancer networks and MDTs can be seen [here](#).

Seven cancer networks failed to achieve 50 per cent recording of this important risk adjustment factor, further delaying the production of risk adjusted outcomes:

- Anglia
- Kent and Medway
- North Wales
- North West London
- South East London
- Surrey West Sussex and Hants
- Sussex.

MDTs should discuss pathological staging in all cases that have undergone surgery. This is both important to accurately define stage as well as identifying if adjunctive treatment is required. The MDT provides an ideal environment to capture this key information and recording of accurate stage is a key medical responsibility. Staging remains a key influence on outcome.

Looking in more detail at concordance between pre and post-surgical staging by T and N category, there were a number of cases where the tumour was up or down staged for T and N category. Details for T category can be found [here](#), and details for N category can be found [here](#).

In looking at T3 larynx cancer treated surgically, 17.1 per cent were upstaged to T4 on post-surgical staging despite pre-treatment investigation. One could ask whether a similar number of patients in the non-surgically treated group were subject to this stage drift and how this might impact upon treatment outcome.

In oral cavity, a significant number of cases were down staged following post-surgical histology and a smaller number upstaged. For this group of patients, the difficulty in assessing bone invasion may influence the figures, both up and down.

Looking at N stage for larynx, little change in N stage is seen with post-surgical staging. However, in oral cavity 15.9 per cent of N0 cases where post-surgical staging was subsequently recorded were upstaged to N+ disease, with the greatest number (61 patients) moving from N0 to N2.

4.6.2 Distribution of performance status at point of treatment decision

	Percentage of 5407 recorded values
Performance status at present	Total
0. Able to carry out all normal activity without restriction	43.6
1. Restricted in physically strenuous activity	23.7
2. Able to walk and capable of all self care but unable to do work	9.8
3. Capable of only limited self care	5.0
4. Completely disabled	1.0
9. Not recorded	16.9
Total	100.0

- Recording of performance status continues its slow improvement, increasing from 63 to 67.5 per cent in England and Wales.
- To facilitate risk adjustment improved completeness of performance status is required. The MDT discussion remains central to the recording of this information. Detailed information by MDT reflecting both levels of submission and category of performance status by anatomic group can be found [here](#).
- The figures for the first eight Annual Reports (17,063 patients with values from zero to four) suggest that the majority of patients (73.6 per cent) have a normal performance status. The apparent lack of sensitivity of performance status to separate by category different patient groups, questions whether performance status will provide adequate discrimination for risk adjustment. More details on the cumulative analysis can be found [here](#).

4.6.3 Presence or absence of significant co-morbidity at index point of diagnosis (ACE-27)

- Co-morbidity values are not currently collected in the Welsh CaNISC⁴¹ system and thus the data below reflects English values.
- Of the 6203 English patients with larynx, oral cavity, oropharynx, hypopharynx and major salivary cancer with at least one recorded careplan, 2507 had co-morbidity values recorded. This is 40.4 per cent of patients with a care plan.
- The recording of co-morbidity appears to have worsened since the seventh Annual Report where 45 per cent of patients had a recorded value. This lack of data continues to hamper risk adjustment.
- There is significant variability between cancer networks in collection of this information, with nine cancer networks achieving over 50 per cent and the highest, South West London, achieving 98.3 per cent.

Co-morbidity index	percentage of 2507 recorded values
Grade 0 - No co-morbidity	38.2
Grade 1 - Mild decompensation	31.8
Grade 2 - Moderate decompensation	17.7
Grade 3 - Severe decompensation	12.3
Total	100.0

- Co-morbidity has been shown to have an important impact in assessing risk and to be an important predictor of outcome. All MDTs are encouraged to collect co-morbidity data. The ACE 27 proforma can be found in the Appendix 2 of the fifth Annual Report.
- To facilitate risk adjustment significant improvement of co-morbidity data is required. Detailed information reflecting both levels of submission and category of co-morbidity by MDT can be found [here](#).
- Cumulative analysis of co-morbidity status now includes information on over 11,500 patients. This shows that 75 per cent of head and neck cancer patients have no or mild decompensation. This dispels the view that the majority of head and neck patients have significant co-morbid disease at diagnosis. However, previous work has identified, that in the minority of patients with significant co-morbidity, there is a major impact on outcome.

4.6.4 Summary by cancer network of records containing staging, performance status and co-morbidity for larynx, oral cavity, oropharynx, hypopharynx and major salivary gland cancer

- Of the 7117 submitted cases in England, around 6547 would have been expected to have reached the care plan stage of the patient pathway, only 2167 cases (33.1 per cent) cases contained the three values of staging, performance status and co-morbidity. The recording of this has worsened since the seventh Annual Report, where 37.4 per cent of records contained these three values. These are core factors that facilitate accurate case mix adjustment - a key desirable output from the audit. The lack of submitted data makes it currently impractical to present case mix adjusted outcomes.
- Significant variation exists between cancer networks in their ability to provide this information. Five cancer networks achieved over 75 per cent submission with the highest being in South West London (100 per cent), the others being Dorset, Essex, North London and North of England. Whilst a significant number of cancer networks achieved only minimal (less than ten per cent) or zero submission. Details by cancer network can be found [here](#).

- It is disappointing that the poorly performing cancer networks have made no progress collecting these three important values since the sixth Annual Report.
- In Wales, co-morbidity data is not collected on the CaNISC⁴¹ system, but considering the two factors of performance status and stage, only 125 of the expected 474 cases have these values – 26.4 per cent.
- The audit intends to explore separately whether information from the best submitting cancer networks can be used to develop a model for risk adjustment.
- The influence of factors such as staging, co-morbidity and performance status can have a significant effect upon treatment outcomes. Therefore all MDTs are strongly encouraged to collect these data set items to facilitate future risk adjustment.

4.6.5 Deprivation analysis: distribution of diagnosis, treatment and outcome by socio-economic lower super output areas, derived from the postcode in England and Wales

4.6.5.1 Summary of registrations by deprivation in England and Wales

This information was extensively discussed in the sixth Annual Report and further work will be undertaken on the cumulative information and reported later in the year.

4.7 Assurance of multi-professional care received by patients in England

It is well recognised that non-medical professionals play important roles in the support and rehabilitation of cancer patients. This was emphasised in the Improving Outcomes Guidance¹⁴ and BAHNO Standards¹², as well as being highlighted by lay membership of the audit and NCIN¹⁹ Site Specific Clinical Reference Group²¹.

It should be noted that no submissions on clinical nurse specialist, or speech and language are included from Wales as these items are not included in the CaNISC⁴¹ system from which data is uploaded. All analyses in those sections therefore refer to cases submitted from England only. Data was received from Wales on dietetic assessment.

4.7.1 Clinical Nurse Specialist (CNS) support along the head and neck cancer patient journey

The CNS acts as a source of both support and information for patients and their carers, both at initial consultation, when bad news of the diagnosis is broken and throughout the course of their treatment. Head and neck cancer patients often come from the lower socio-economic strata of society with a concomitantly low level of social support and education³⁴. Their understanding of complex treatment options and their ability to cope during

treatment is often poor. These patients often rely on the CNS to provide further explanations of the implications of their disease and the treatment options. The 2010 National Standards for Head and Neck Cancer Services¹⁶ and 2011-2012⁶ Cancer Patient Experience Survey clearly identify a positive impact for patients in their overall experience scores following input from a CNS.

Interactions between the patient (and/or their carers) and the CNS are complex and multifactorial, including activities such as information giving, practical support, benefits advice, psychological support and help with decision making.

- In the 2011-2012 National Cancer Patient Experience Survey⁶ 83 per cent of patients of the total head and neck responders (2010 of 2422 patients) confirmed that they had been given the name of a CNS during their care pathway. This is comparable with other non-head and neck cancers reported in the survey.

4.7.1.1 Clinical Nurse Specialist and the breaking of bad news

- 3384 patients (43.8 per cent) of all cases in England were confirmed as having a CNS present at the breaking of bad news. This is a further rise since the seventh Annual Report.
- There was significant variation in the level of assurance provided by different cancer networks. Four confirmed that over 70 per cent of patients had a CNS or designate present at the breaking of bad news, with the highest performing cancer networks achieving this in 91.9 per cent of cases. Details by cancer network can be found in the key indicators table in [Appendix 6](#) and by provider organisation [here](#).
- Four cancer networks were unable to provide assurance that even 20 per cent of patients were seen by a CNS at the breaking of bad news. These four cancer networks have significant work to do to match the highest performing cancer networks.
- Patient representatives feel it is imperative that a CNS is available from diagnosis to all patients with cancer. Addressing the issue of the lack of appropriate professional support should be seen as a priority. For all patients and particularly those undergoing treatment (curative or palliative) the CNS plays an important role in supporting choice of treatment.

4.7.1.2 What evidence has been submitted of actual Clinical Nurse Specialist provision prior to the commencement of first treatment?

- 3446 of the 6298 (54.7 per cent) patients with treatment records were confirmed as seeing a CNS prior to treatment. This is a similar percentage to those seen pre-treatment in the seventh Annual Report.
- Eight cancer networks provided assurance that over 70 per cent of patients were seen by a CNS, with the highest performing cancer networks achieving this in over 89.8 per cent of patients.
- Two cancer networks, Humber and Yorkshire Coast and South East London, reported less than five per cent of patients as being supported by a CNS in this key part of the pathway. Details by MDT can be found [here](#), and details by cancer network can be found [here](#).

The date each new head and neck cancer patient first has contact with a Clinical Nurse Specialist should be routinely recorded. (CLE 5)

Patients diagnosed with head and neck cancer should be offered a consultation with the head and neck specialist nurse within one week of diagnosis. (Welsh Standard)

100 per cent of patients should be seen by a specialist head and neck liaison nurse (eg Macmillan), whose contact details should be provided to all patients at the earliest opportunity. (BAHNO Standard)¹²

4.7.2 Dental health assessment in head and neck cancer care³⁵

The Expert Panel recognises that it is important to maintain good oral health throughout treatment for all anatomic subsites to reduce the incidence of post treatment complications such as osteoradionecrosis and accelerated dental decay. A restorative dentist is a core member of the head and neck team and should be involved in care prior to the first definitive treatment and in oral rehabilitation following treatment.

- A dental assessment is recorded in 27.8 per cent of the 6298 English patient registrations (1751 patients), with treatment plans. This represents a significant improvement of nearly 50 per cent compared to the seventh Annual Report.
- The percentage of patients receiving dental assessment varies by anatomic sub site, from 31.9 per cent in oropharynx to 20.8 per cent in major salivary and nasal cavity and sinus.

- Reporting in this area varied considerably by cancer network. The best performing achieved submission rates of over 70 per cent (North of England and Essex) and the worst, less than five per cent (Kent and Medway, Merseyside and Cheshire, North West London, Pan Birmingham and South East London).
- More detailed results by MDT can be found [here](#), and results by cancer network can be found [here](#).
- It is encouraging that greater assurance of oral health assessment is now evident. The Expert Panel noted that there are apparent shortages of restorative dentists working with head and neck cancer patients. The importance of these specialists as core members of an MDT is recognised in Improving Outcomes Guidance¹⁴ and BAHNO Standards¹².

Dental health during and after treatment for head and neck cancer is a significant contributor to patient well being. MDTs are strongly encouraged to provide information to confirm that care is being provided. 100 per cent of patients should be assessed by a suitably qualified dental practitioner before and after their main treatment. (BAHNO Standard)¹²

Percentage of cases of head and neck cancer confirmed as having any pre-operative/pre-treatment dental assessment. (CLE 7)

4.7.3 Speech and language input to head and neck cancer care

Pre-treatment speech and swallowing assessment

A pre-treatment speech and swallowing evaluation is now recommended in a number of international guidelines in the work up to intervention and is a well established part of the laryngectomy care pathway.

- A pre-treatment speech and swallowing assessment is recorded for 19.8 per cent of the registrations with treatment records, including patients with palliative treatment intent.
- Surrey, West Sussex and Hants cancer network had the highest number of recorded pre-treatment assessments, which provided assurance for 62.8 per cent of patients.

- Only one cancer network in England failed to provide confirmation of any patients being seen by a speech and language therapist (South East London). A further five cancer networks provided evidence of Speech and Language Therapy (SALT) contact pre-treatment for less than five per cent of their submitted patients.
 - Central South Coast
 - Dorset
 - East Midlands
 - Merseyside and Cheshire
 - North East London
- Pre-treatment speech and swallowing assessments across tumour sites ranged from 28.2 per cent in hypopharyngeal patients to 16.4 per cent for patients with oropharyngeal cancer.

Given the importance of pre-treatment SALT assessment, MDTs are encouraged to improve submission of this aspect of care.

Laryngectomy patients

- For those undergoing laryngectomy, the speech therapist plays an important role in supporting choice in the method of restored voice.
- 208 patients were recorded as having a laryngectomy or laryngectomy and pharyngectomy, for laryngeal and hypopharyngeal cancer.
- A pre-treatment speech and language therapy assessment is recorded for 50 per cent of the laryngectomy registrations. This shows a further improvement from the seventh Annual Report, which reported 41 per cent pre-treatment assessment.

Post-treatment data

The eighth Annual Report, for the first time, includes information on speech and swallowing status at three months post-treatment. A twelve month time point is also now included in the dataset, so information on long term outcomes will be available for the next report.

- 46 patients (11.7 per cent of patients, n=392) were nil by mouth. The majority of these patients had treatment for oral or oropharyngeal tumours.
- 109 patients (27.8 per cent) were on a normal texture diet, the majority had laryngeal or oral tumour sites.
- There were 43 entries recording the primary communication method for laryngectomees at three months. Primary SVR was the most common method in 23 patients (53.5 per cent), followed by mouthing in 13 patients (30.2 per cent) electrolarynx was used by five patients (11.6 per cent) and two patients relied upon writing or communication aid.

- 40 per cent of laryngectomees were on a normal diet at three months, with just four per cent being nil by mouth.
- Although this analysis shows an increase in the overall number of entries for speech and language therapy, these figures are still unlikely to be representative of the true picture of what is occurring clinically.
- There are a number of reasons for the present low submissions in this section. In order to improve the accuracy of SALT contacts recorded on the DAHNO system: SALTs need to have adequate administrative support and access to the necessary IT; there should be good communication between the data manager and SALT with an agreed strategy for data inputting; other data fields need to be completed, particularly for laryngectomy in order to extract SALT contacts. SALT contacts should be checked as part of a MDT's data cleaning before data submission to DAHNO.

4.7.4 Dietetic input into patient pathway

Dietetic support is important through all parts of the patient pathway, particularly in those undergoing any form of treatment where the morbidity of the treatment can be reduced by appropriate intervention. MDTs are encouraged to confirm the dietetic care provided. 100 per cent of patients should be seen by a dietician prior to the commencement of treatment. (BAHNO Standard)¹²

Dietetic assessment is a key part of patient care and impacts on complications following treatment³⁶. It aims to encompass both pre-treatment nutritional status as well as types of nutritional support provided.

This eighth Annual Report is the final time it will be presented in this format. Whilst dietetic data collection is increasing, it is felt that improvements in the volume of dietetic submissions would be seen by refining and reducing data entry requirements. Changes are designed to simplify the process and obtain more focused information on the current dietetic input to the patient pathway. The next report will reflect these changes.

The revised data set will include:

- Pre and post-treatment dietetic assessment
- Requirement for nutritional support before treatment
- Predominant method of nutritional support
- Feeding tube type used during treatment.

More information on the data items can be found [here](#).

Analysis for the eighth Annual Report has taken into account, (where possible) these changes to facilitate future comparison.

1522 records from England (25.6 per cent) contain a pre-treatment dietetic assessment. This represents a 10.8 per cent increase compared to the seventh Annual Report.

51 care providers reported no pre-treatment dietetic assessments were carried out. It is not possible to determine whether this is due to poor levels of recording or actual absence of pre-treatment dietetic assessment.

1462 records (24.6 per cent) contain a post-treatment dietetic assessment. 22.6 per cent of patients are confirmed as having no post-treatment follow-up, however, 52.8 per cent of patients have no post-treatment recorded dietetic outcome.

In this year's data a minor increase in patients having artificial nutritional support was observed. Of those patients with care plans, 11.7 per cent had artificial nutritional support during treatment compared with 10.2 per cent in the previous report. As was the case last year, the predominant nutritional intervention procedure was gastrostomy insertion, with 908 events recorded. Due to coding choices, it is difficult to fully determine the method by which gastrostomy tubes were placed. In addition, it is not possible to accurately determine the number of tubes placed nasogastrically. The new data set will provide more accurate information on methods of nutritional support. It will also collect information on oral nutritional support for the first time.

More information on dietetic submission by MDT can be found [here](#).

The date each new head and neck cancer patient first has contact with a dietician should be routinely recorded. (CLE 6)

4.8 Receiving timely care

A flow chart defining the patient pathway in head and neck cancer care was published in the seventh Annual Report.

4.8.1 Interval first symptom to referral

- Information from the 2011 - 2012 National Cancer Patient Experience Survey⁶ showed that 27 per cent of patients saw a GP more than twice before being referred to a hospital doctor. Head and neck cancer lies in the mid-range across all cancers for this aspect. The audit has previously reported on the need to increase awareness in General Dental Practitioners of the two week wait pathway and of increasing its use. This year, of 329 oral cavity cancers whose pathway started from a dental practitioner, 34.0 per cent came via the urgent two week wait pathway, whilst in 44 oropharynx cancers (36.4 per cent) came as two week wait referrals.

- Across all cancer sub-sites in England, 49.2 per cent of patients were referred using the two week wait pathway and 73.3 per cent via the two week wait or urgent pathways. This demonstrates increased awareness in primary care of symptoms suggestive of head and neck cancer.
- Early cancer diagnosis is a key aspect of Improving Outcomes: A Strategy For Cancer³⁷ and is supported by the National Awareness and Early Diagnosis Initiative (NAEDI)³⁸. The overall goal of NAEDI is to promote earlier diagnosis of cancer, and, through doing so, improve cancer survival rates and to reduce cancer mortality.

4.8.2 Interval from biopsy to reporting

- A further significant improvement in submission occurred this year with 5369 records submitted, against 2969 last year. Being a Clinical Line of Enquiry¹⁷ in Peer Review may have helped increase this figure.
- There was a further small improvement in percentage terms of the number of biopsies reported in less than ten days, increasing from 86.9 per cent last year to 87.2 per cent this year. (England 87.2 per cent and Wales 87.6 per cent).
- 46 trusts had more than five cases (seventh Annual Report had 21 trusts), where the interval from biopsy to reporting was ten days or greater (a total of 686 cases) and of these 29.2 per cent waited over 21 days.
- A further analysis looked at those cases with an interval from biopsy to reporting of over 21 days. 200 cases (3.7 per cent) were reported with an interval of 21 days or more. Some of these cases may reflect patients on a routine pathway where cancer was not clinically suspected, though others may reflect significant resource constraints or poor data quality. Three organisations had significant case numbers with long intervals: Worcestershire Acute Hospitals NHS Trust, Cambridge University Hospitals NHS Foundation Trust and Aintree University Hospital NHS Foundation Trust.
- The following two cancer networks achieved only minimal returns:
 - South East London
 - Surrey, West Sussex and Hants
- The chart below demonstrates providers who submitted more than five cases and is colour coded to show quartiles as follows: red displays those providers with greater than or equal to 50 per cent of cases which have taken more than ten days, amber displays those providers with less than 50 per cent but greater than or equal to 25 per cent which have taken more than ten days, finally green displays those providers where less than 25 per cent of cases have taken more than ten days.

Table 4.8.2
Interval from biopsy to reporting by first diagnosing organisation

Code	First Diagnosing Trust Name	<=10 days		>10 days		Total
		n	%	n	%	n
RTE	Gloucestershire Hospitals NHS Foundation Trust	62	66.7	31	33.3	93
RWP	Worcestershire Acute Hospitals NHS Trust	70	83.3	14	16.7	84
RLQ	Wye Valley NHS Trust	15	68.2	7	31.8	22
N29	3 Counties total	147	73.9	52	26.1	199
RGT	Cambridge University Hospitals NHS Foundation Trust	74	66.1	38	33.9	112
RGQ	Ipswich Hospital NHS Trust	11	84.6	2	15.4	13
RGP	James Paget University Hospitals NHS Foundation Trust	11	100.0	0	0.0	11
RM1	Norfolk and Norwich University Hospitals NHS Foundation Trust	20	90.9	2	9.1	22
N37	Anglia total	117	73.1	43	26.9	160
RKB	University Hospitals Coventry and Warwickshire NHS Trust	104	89.7	12	10.3	116
N12	Arden total	104	89.7	12	10.3	116
RVJ	North Bristol NHS Trust	37	84.1	7	15.9	44
RD1	Royal United Hospital Bath NHS Trust	26	100	0	0.0	26
RBA	Taunton and Somerset NHS Foundation Trust	42	79.2	11	20.8	53
RA7	University Hospitals Bristol NHS Foundation Trust	76	84.4	14	15.6	90
N28	Avon, Somerset and Wiltshire total	181	85.0	32	15.0	213
5QT	Isle of Wight NHS PCT	22	88.0	3	12.0	25
RNZ	Salisbury NHS Foundation Trust	34	100.0	0	0.0	34
RHM	University Hospital Southampton NHS Foundation Trust	86	85.1	15	14.9	101
RYR16	Western Sussex Hospitals NHS Trust (St Richards)	12	70.6	5	29.4	17
N31	Central South Coast total	155	86.6	24	13.4	179
RBD	Dorset County Hospital NHS Foundation Trust	16	72.7	6	27.3	22
RD3	Poole Hospital NHS Foundation Trust	85	93.4	6	6.6	91
RDZ	The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust	6	75.0	2	25.0	8
N27	Dorset total	107	88.4	14	11.6	121
RJF	Burton Hospitals NHS Foundation Trust	26	96.3	1	3.7	27
RTG	Derby Hospitals NHS Foundation Trust	45	100.0	0	0.0	45
RNQ	Kettering General Hospital NHS Foundation Trust	23	95.8	1	4.2	24
RNS	Northampton General Hospital NHS Trust	50	94.3	3	5.7	53
RX1	Nottingham University Hospitals NHS Trust	66	91.7	6	8.3	72
RK5	Sherwood Forest Hospitals NHS Foundation Trust	11	91.7	1	8.3	12
RWD	United Lincolnshire Hospitals NHS Trust	60	92.3	5	7.7	65
RWE	University Hospitals of Leicester NHS Trust	36	80.0	9	20.0	45
N39	East Midlands total	317	92.4	26	7.6	343
RDD	Basildon and Thurrock University Hospitals NHS Foundation Trust	32	94.1	2	5.9	34
RDE	Colchester Hospital University NHS Foundation Trust	49	100.0	0	0.0	49
RAJ	Southend University Hospital NHS Foundation Trust	42	89.4	5	10.6	47
N38	Essex total	125	94.0	8	6.0	133
RW3	Central Manchester University Hospitals NHS Foundation Trust	46	92.0	4	8.0	50
RJN	East Cheshire NHS Trust	9	100.0	0	0.0	9
RBT	Mid Cheshire Hospitals NHS Foundation Trust	34	100.0	0	0.0	34
RW6	Pennine Acute Hospitals NHS Trust	115	95.0	6	5.0	121
RWJ	Stockport NHS Foundation Trust	38	90.5	4	9.5	42
RMP	Tameside Hospital NHS Foundation Trust	35	97.2	1	2.8	36
RM2	University Hospital of South Manchester NHS Foundation Trust	23	95.8	1	4.2	24
RRF	Wrightington, Wigan and Leigh NHS Foundation Trust	27	84.4	5	15.6	32
N02	Greater Manchester and Cheshire total	337	93.6	23	6.4	360
RJD	Mid Staffordshire NHS Foundation Trust	16	84.2	3	15.8	19
RXW	Shrewsbury and Telford Hospital NHS Trust	50	84.7	9	15.3	59
RNA	The Dudley Group NHS Foundation Trust	43	86.0	7	14.0	50
RL4	The Royal Wolverhampton NHS Trust	62	92.5	5	7.5	67
RJE	University Hospital of North Staffordshire NHS Trust	18	56.3	14	43.8	32
N35	Greater Midlands total	189	83.3	38	16.7	227

Code	First Diagnosing Trust Name	<=10 days		>10 days		Total
		n	%	n	%	n
RWA	Hull and East Yorkshire Hospitals NHS Trust	50	70.4	21	29.6	71
RJL	Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	41	93.2	3	6.8	44
RCC	Scarborough and North East Yorkshire Health Care NHS Trust	16	100.0	0	0.0	16
N07	Humber and Yorkshire Coast total	107	81.7	24	18.3	131
RPC	Queen Victoria Hospital NHS Foundation Trust	29	87.9	4	12.1	33
N34	Kent and Medway total	29	85.3	5	14.7	34
RXR	East Lancashire Hospitals NHS Trust	74	91.4	7	8.6	81
RXN	Lancashire Teaching Hospitals NHS Foundation Trust	8	100.0	0	0.0	8
RTX	University Hospitals of Morecambe Bay NHS Foundation Trust	12	80.0	3	20.0	15
N01	Lancashire and South Cumbria total	95	90.5	10	9.5	105
REM	Aintree University Hospital NHS Foundation Trust	91	84.3	17	15.7	108
RQ6	Royal Liverpool and Broadgreen University Hospitals NHS Trust	18	85.7	3	14.3	21
N03	Merseyside and Cheshire total	110	84.6	20	15.4	130
RC1	Bedford Hospital NHS Trust	27	84.4	5	15.6	32
RWH	East and North Hertfordshire NHS Trust	31	63.3	18	36.7	49
N20	Mount Vernon total	62	72.1	24	27.9	86
RNJ	Barts and The London NHS Trust	10	58.8	7	41.2	17
RGC	Whipps Cross University Hospital NHS Trust	20	100.0	0	0.0	20
N23	North East London total	31	81.6	7	18.4	38
RVL	Barnet and Chase Farm Hospitals NHS Trust	82	89.1	10	10.9	92
RRV	University College London Hospitals NHS Foundation Trust	66	93.0	5	7.0	71
N22	North London total	148	90.8	15	9.2	163
RLN	City Hospitals Sunderland NHS Foundation Trust	147	94.8	8	5.2	155
RXP	County Durham and Darlington NHS Foundation Trust	51	96.2	2	3.8	53
RNL	North Cumbria University Hospitals NHS Trust	48	80.0	12	20.0	60
RTR	South Tees Hospitals NHS Foundation Trust	104	93.7	7	6.3	111
RTD	The Newcastle Upon Tyne Hospitals NHS Foundation Trust	133	91.1	13	8.9	146
N36	North of England total	483	92.0	42	8.0	525
RFF	Barnsley Hospital NHS Foundation Trust	15	100.0	0	0.0	15
RFS	Chesterfield Royal Hospital NHS Foundation Trust	36	80.0	9	20.0	45
RP5	Doncaster and Bassetlaw Hospitals NHS Foundation Trust	72	90.0	8	10.0	80
RHQ	Sheffield Teaching Hospitals NHS Foundation Trust	86	93.5	6	6.5	92
RFR	The Rotherham NHS Foundation Trust	27	93.1	2	6.9	29
N08	North Trent total	236	90.4	25	9.6	261
RYJ	Imperial College Healthcare NHS Trust	54	85.7	9	14.3	63
RV8	North West London Hospitals NHS Trust	15	88.2	2	11.8	17
RFW	West Middlesex University Hospital NHS Trust	9	75.0	3	25.0	12
N21	North West London total	79	84.9	14	15.1	93
RR1	Heart of England NHS Foundation Trust	31	70.5	13	29.5	44
RXK	Sandwell and West Birmingham Hospitals NHS Trust	51	94.4	3	5.6	54
RRK	University Hospitals Birmingham NHS Foundation Trust	107	96.4	4	3.6	111
RBK	Walsall Healthcare NHS Trust	9	75.0	3	25.0	12
N11	Pan Birmingham total	198	89.6	23	10.4	221
RBZ	Northern Devon Healthcare NHS Trust	5	50.0	5	50.0	10
RK9	Plymouth Hospitals NHS Trust	60	88.2	8	11.8	68
REF	Royal Cornwall Hospitals NHS Trust	47	74.6	16	25.4	63
RH8	Royal Devon and Exeter NHS Foundation Trust	63	86.3	10	13.7	73
RA9	South Devon Healthcare NHS Foundation Trust	48	96.0	2	4.0	50
N26	Peninsula total	223	84.5	41	15.5	264
N24	South East London total	0	0.0	0	0.0	0
RJ6	Croydon Health Services NHS Trust	7	87.5	1	12.5	8
RVR	Epsom and St Helier University Hospitals NHS Trust	16	100.0	0	0.0	16
RAX	Kingston Hospital NHS Trust	14	100.0	0	0.0	14
RJ7	St Georges Healthcare NHS Trust	105	88.2	14	11.8	119
N25	South West London total	143	88.8	18	11.2	161
N32	Surrey West Sussex and Hants total	1	100.0	0	0.0	1

Code	First Diagnosing Trust Name	<=10 days		>10 days		Total
		n	%	n	%	n
RXH	Brighton and Sussex University Hospitals NHS Trust	54	61.4	34	38.6	88
RXC	East Sussex Healthcare NHS Trust	40	75.5	13	24.5	53
RYR18	Western Sussex Hospitals NHS Trust (Worthing and Southlands)	18	94.7	1	5.3	19
N33	Sussex total	112	70.0	48	30.0	160
RN3	Great Western Hospitals NHS Foundation Trust	31	91.2	3	8.8	34
RD8	Milton Keynes Hospital NHS Foundation Trust	15	88.2	2	11.8	17
RTH	Oxford University Hospitals NHS Trust	96	98.0	2	2.0	98
N30	Thames Valley total	143	94.7	8	5.3	151
RAE	Bradford Teaching Hospitals NHS Foundation Trust	62	80.5	15	19.5	77
RWY	Calderdale and Huddersfield NHS Foundation Trust	40	90.9	4	9.1	44
RCD	Harrogate and District NHS Foundation Trust	17	94.4	1	5.6	18
RXF	Mid Yorkshire Hospitals NHS Trust	80	95.2	4	4.8	84
RCB	York Teaching Hospital NHS Foundation Trust	85	92.4	7	7.6	92
N06	Yorkshire total	288	90.3	31	9.7	319
	England total	4267	87.2	627	12.8	4894
7A1	Betsi Cadwaladr University Health Board	86	91.5	8	8.5	94
NWW	North Wales total	86	91.5	8	8.5	94
7A3	Abertawe Bro Morgannwg University Health Board	128	88.3	17	11.7	145
7A6	Aneurin Bevan Health Board	65	85.5	11	14.5	76
7A4	Cardiff and Vale University Health Board	61	85.9	10	14.1	71
7A5	Cwm Taf Health Board	39	88.6	5	11.4	44
7A2	Hywel Dda Health Board	37	82.2	8	17.8	45
SWCN	South Wales total	330	86.6	51	13.4	381
	Wales total	416	87.6	59	12.4	475
	England and Wales total	4683	87.2	686	12.8	5369

Cases included: Diagnoses in audit year with date of pathology report >= diagnostic procedure date

Details by provider on the interval from biopsy to reporting of over 21 days can be found [here](#).

It is recognised that in many care providers, pathology services are under strain, but providers and cancer networks should be encouraged to look at innovative methods for improving the time to reporting. It can be a key enabler to facilitate early treatment, and care providers should seek to demonstrate improvements by increasing the volume of submission.

4.8.3 Imaging

4.8.3.1 Imaging of the primary site

- The alteration to imaging submission this year allowed MDTs to confirm which forms of imaging were utilised in individual patients.
- Imaging modalities varied between MDTs depending on the anatomical site of the primary tumour and local preferences.
- 63.8 per cent of patients are recorded as having a pre-treatment CT, 42.8 per cent had a MRI and 14.8 per cent had an ultrasound. In combination 75.2 per cent of patients had either CT, MRI or ultrasound prior to treatment giving assurance of this standard of care.

CT/MRI should be carried out in 90 per cent of tumours in all anatomic sites excluding lip and 100 per cent of tumours of the nose / sinus and ear. (BAHNO Standard)¹²

- To view further information by MDT on imaging used click [here](#).

4.8.3.2 Imaging of the chest

- Whilst the incidence of synchronous malignancies and metastatic chest disease may be low, their detection prior to the production of a care plan is imperative and teams should be encouraged to identify that chest imaging has been carried out and reported prior to the agreement of a care plan.

Imaging of the chest in 95 per cent of cases prior to treatment planning. (BAHNO Standard)¹²

- 3762 patients (57.3 per cent of all diagnoses having treatment) are evidenced as having had chest imaging by chest X-ray or CT prior to treatment. This has fallen from the 66.7 per cent achieved last year. The highest performing cancer networks in England provided evidence in over 90 per cent of cases. 11 cancer networks provided assurance in over 70 per cent of cases that chest imaging occurred prior to treatment. Thames Valley only provided evidence in 24.9 per cent of cases.

4.8.3.3 PET Scanning

- PET (Positron Emission Scanning)³⁹ in head and neck cancer is a relatively new technique in the United Kingdom. It uses a combination of CT scanning and injection of a radioisotope (5 FDG), which is taken up by rapidly metabolising cells such as cancer cells. The technique may allow better delineation of disease and has particular relevance in the assessment of otherwise occult disease either ahead of major treatment or during follow up.
- This year, a total of 51 MDTs in England submitted records on PET scanning for their patients. 518 scans were carried out, a 26.7 per cent increase from last year. The most common primary site where PET scanning was utilised was oropharynx accounting for 44.2 per cent of all PET scans. This group of patients commonly present with neck disease and occult primaries, which PET scanning may help reveal. Details can be found [here](#).
- Once again there was wide variation in the use of PET scanning with two cancer networks (North of England and Kent and Medway) accounting for more than 80 scans each. In comparison, six cancer networks requested less than five PET scans each.
- The variation in uptake of PET scans may represent local difficulties in accessing scans, although there is currently a national contract to provide PET scans, or may reflect variation in the potential value of a PET scan.

4.8.3.4 Pre-treatment OPG assessment

- An orthopantomogram (OPG) may be taken as part of an assessment of the dentition prior to treatment, but also as an assessment of tumour invasion of the mandible and provides a useful screening tool.
- 1247 patients were recorded as having an OPG. 61.3 per cent of these patients were confirmed as having a dental assessment, although it is likely that the remainder had some form of dental assessment.
- BAHNO² is currently reviewing the Standard that requires all patients with head and neck cancer to have a pre-treatment OPG.

4.8.4 The head and neck multidisciplinary team (MDT) – are all patients discussed?

- It is both a BAHNO Standard¹² and an Improving Outcomes Guidance Standard¹⁴ that all patients are discussed in an MDT.
- In this report, it is very pleasing to report that overall 95.6 per cent of all patients, were confirmed as having been discussed at an MDT meeting, with 4.2 per cent (345 patients, 343 from England and two from Wales) recording that they were not discussed.
- This represents an improvement on the 90.6 per cent of patients who were recorded as being discussed in a MDT in the seventh Annual Report with 2.3 per cent recorded that they were not. The system has been designed so that users have to answer either yes or no, not recorded is not an option. However, in error, 18 unknowns were recorded. This will not be possible in future collection years.
- These results show a small but significant group of patients whose management has been planned outside of an MDT: 345 patients this year recorded as not discussed at MDT, against 160 patients last year. Cancer networks with disproportionately high levels of patients not discussed at a MDT should seek confirmation from MDTs of the reasons on an individual case basis why this is not occurring.
- In England a small number of cancer networks and MDTs have higher levels of cases recorded as not discussed. The following cancer networks reported over 15 per cent of cases as not discussed:
 - Greater Manchester and Cheshire
 - Pan Birmingham.

Table 4.8.4
Summary of multidisciplinary team discussion by cancer network

Code	Diagnosing Network Name	Yes		No		Unknown		Total
		n	%	n	%	n	%	n
N29	3 Counties	205	99.5	1	0.5	0	0.0	206
N37	Anglia	392	98.0	8	2.0	0	0.0	400
N12	Arden	127	96.9	4	3.1	0	0.0	131
N28	Avon, Somerset and Wiltshire	299	98.7	4	1.3	0	0.0	303
N31	Central South Coast	274	97.5	7	2.5	0	0.0	281
N27	Dorset	123	100.0	0	0.0	0	0.0	123
N39	East Midlands	469	99.4	3	0.6	0	0.0	472
N38	Essex	197	99.5	1	0.5	0	0.0	198
N02	Greater Manchester and Cheshire	424	83.8	82	16.2	0	0.0	506
N35	Greater Midlands	282	99.3	2	0.7	0	0.0	284
N07	Humber and Yorkshire Coast	170	98.3	3	1.7	0	0.0	173
N34	Kent and Medway	218	92.8	14	6.0	3	1.3	235
N01	Lancashire and South Cumbria	313	91.3	30	8.7	0	0.0	343
N03	Merseyside and Cheshire	449	93.5	31	6.5	0	0.0	480
N20	Mount Vernon	121	91.0	12	9.0	0	0.0	133
N23	North East London	163	95.3	8	4.7	0	0.0	171
N22	North London	193	100.0	0	0.0	0	0.0	193
N36	North of England	515	95.2	26	4.8	0	0.0	541
N08	North Trent	293	99.7	1	0.3	0	0.0	294
N21	North West London	160	95.2	8	4.8	0	0.0	168
N11	Pan Birmingham	229	82.1	50	17.9	0	0.0	279
N26	Peninsula	279	96.9	9	3.1	0	0.0	288
N24	South East London	214	99.5	1	0.5	0	0.0	215
N25	South West London	184	99.5	1	0.5	0	0.0	185
N32	Surrey West Sussex and Hants	205	98.1	4	1.9	0	0.0	209
N33	Sussex	193	100.0	0	0.0	0	0.0	193
N30	Thames Valley	284	96.6	10	3.4	0	0.0	294
N06	Yorkshire	405	94.6	23	5.4	0	0.0	428
	England total	7380	95.5	343	4.4	3	0.0	7726
NWW	North Wales	105	94.6	0	0.0	6	5.4	111
SWCN	South Wales	424	97.5	2	0.5	9	2.1	435
	Wales total	529	96.9	2	0.4	15	2.7	546
	England and Wales total	7909	95.6	345	4.2	18	0.2	8272

Percentage of new cases of head and neck cancer discussed at MDT. (CLE 1)

All head and neck cancer patients should be managed by the MDT. (Welsh Standard)

What percentage of cases are discussed by an MDT in each trust?

- The chart above reports by MDT the information supplied to the audit on MDT discussion. Care should be taken in assessing percentages where only small case numbers were submitted.

4.8.5 The head and neck multidisciplinary team (MDT) – are all patients with resective pathology discussed?

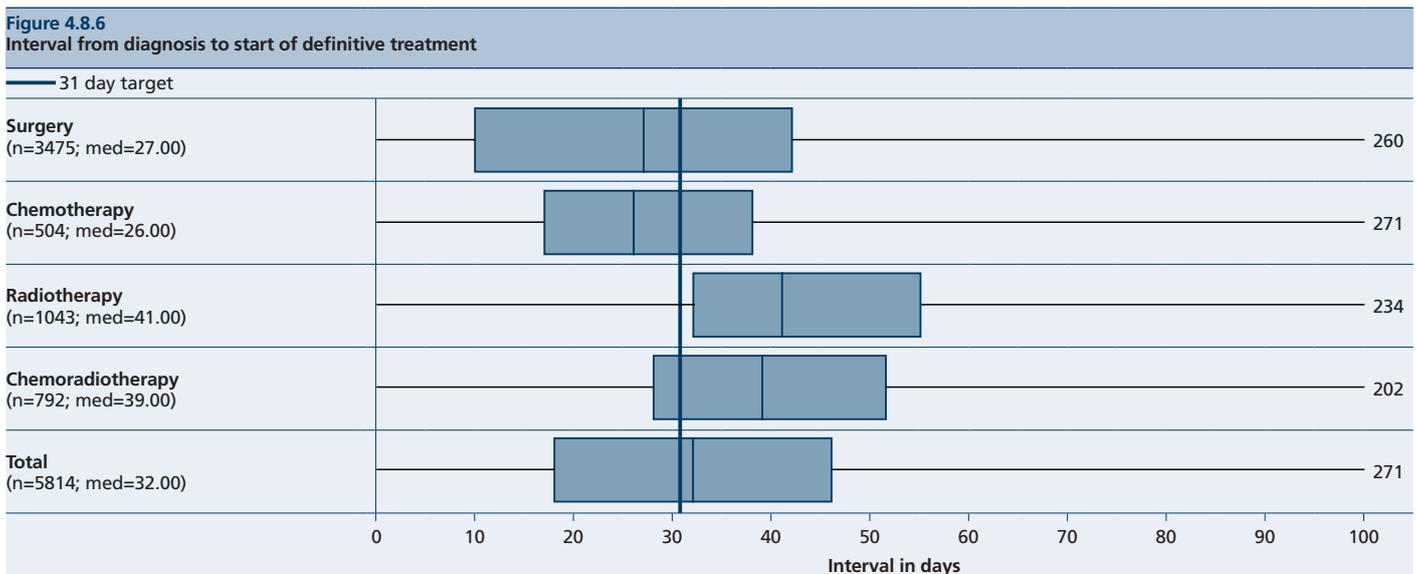
Improving Outcomes Guidance (IOG)¹⁴ Measures in England identify that a multidisciplinary team should undertake postoperative review of operation findings on all patients who have undergone surgery. This allows both interaction between pathologist and surgeon, agreed interpretation of adequacy of margins and consideration of the need for adjunctive treatment. From these discussions an overall agreed integrated stage should be documented and available for future comparisons.

In Wales it is considered good practice to discuss resective pathology at an MDT, but it is not a formal measure.

- Of 3994 cases in England and Wales submitted as undergoing surgery as first treatment, 2136 cases (53.5 per cent) were recorded as having their resective pathology discussed. The compliance varied between England (51.4 per cent) and Wales (88.7 per cent).
- Analysis of the interval from surgical resection to reporting on the resected specimen, demonstrated a median interval of nine days. 3.8 per cent of specimens (121) took over 48 days to be reported. Those specimens taking longer than 48 days were largely oral cavity specimens most likely reflecting the time taken for decalcification of bony specimens.
- This provides good assurance that MDT practice is meeting this IOG¹⁴ requirement and providing a high standard of care to patients.

4.8.6 Interval from diagnosis to first treatment

- The interval from diagnosis to treatment – surgery, radiotherapy, chemotherapy or chemoradiotherapy – remains variable but with delays still apparent in the delivery of radiotherapy treatments.
- The medians for surgery at 27 days and chemotherapy 26 days remain within 31 days and have reduced from last year, but chemoradiotherapy at 39 days and radiotherapy at 41 days still have room for improvement. The median for radiotherapy access has improved by a further one day when compared to the seventh Annual Report. Chemoradiotherapy access however has lengthened by four days.



- Within and between cancer networks and care providers variation still exists, for example in East Midlands median access times for Nottingham University Hospitals NHS Trust was 19 days and United Lincolnshire Hospitals NHS Trust 42.5 days.
- Considering treatment of any type, the longest median access times from date of diagnosis to the start of treatment were found in South Tees (48 days) and Salisbury (47.5 days). In Wales, the longest access was seen in Velindre (45.5 days). More information by network for each modality of treatment can be found at the following links, [surgery](#), [chemotherapy](#), [radiotherapy](#), [chemoradiotherapy](#). By cancer network the longest access is seen in Arden at 43.5 and the shortest in Thames Valley at 22 days.
- For surgery, the longest median access times were seen in South Wales (40.5 days), Central South Coast (36.0 days) and Sussex (35.5 days), and radiotherapy in North Wales (62.5 days) and South Wales (56 days) and Peninsula (50.5 days). However, it is pleasing to note that extended access times have reduced since the seventh Annual Report.
- Cancer networks should continue to review the provision of radiotherapy services to ensure patients are not disadvantaged by access difficulties.
- By provider, considerable variation is seen in the time to [surgery](#), [radiotherapy](#), [chemotherapy](#) and [chemoradiotherapy](#) as detailed at the relevant links.
- Length of stay was also examined by surgical treatment centre and details can be found [here](#). The median for all sites varied between organisations with the longest median being 15 days. However, it is not surprising that there is a degree of variation as case mix, type of procedure and distribution of site will vary between organisations.
- It is also recognised that the median will be affected by the numbers of cases performed as day cases, (early stage disease) and more complex surgery in higher stage disease. To examine this further the audit took two sites, larynx and oral cavity and looked at the length of stay for early and late stage disease as well as separately examining an inpatient cohort.
- In larynx the median length of stay in early stage disease (290 cases) was one day, whilst in late stage disease (237 cases) it was 14 days. In the remaining 95 cases with unknown stage the median was one day. Further analysis showed that only those patients that were inpatients in early larynx (166 cases) the median remained one day, whilst in late stage (217 cases) the median was 15 days. In the unknown group (66 cases) the median was 12 days. The overall median of the inpatient group was five days.
- For oral cavity the median length of stay in early stage disease (1053 cases) was two days, whilst in late stage disease (924 cases) it was 12 days. In the remaining 552 cases with unknown stage the median was seven days. Further analysis showed that only those patients that were inpatients in early oral cavity (610 cases) the median remained five days, whilst in late stage (396 cases) the median was 13 days. In the unknown group (219 cases) the median was nine days. The overall median of the inpatient group was nine days.

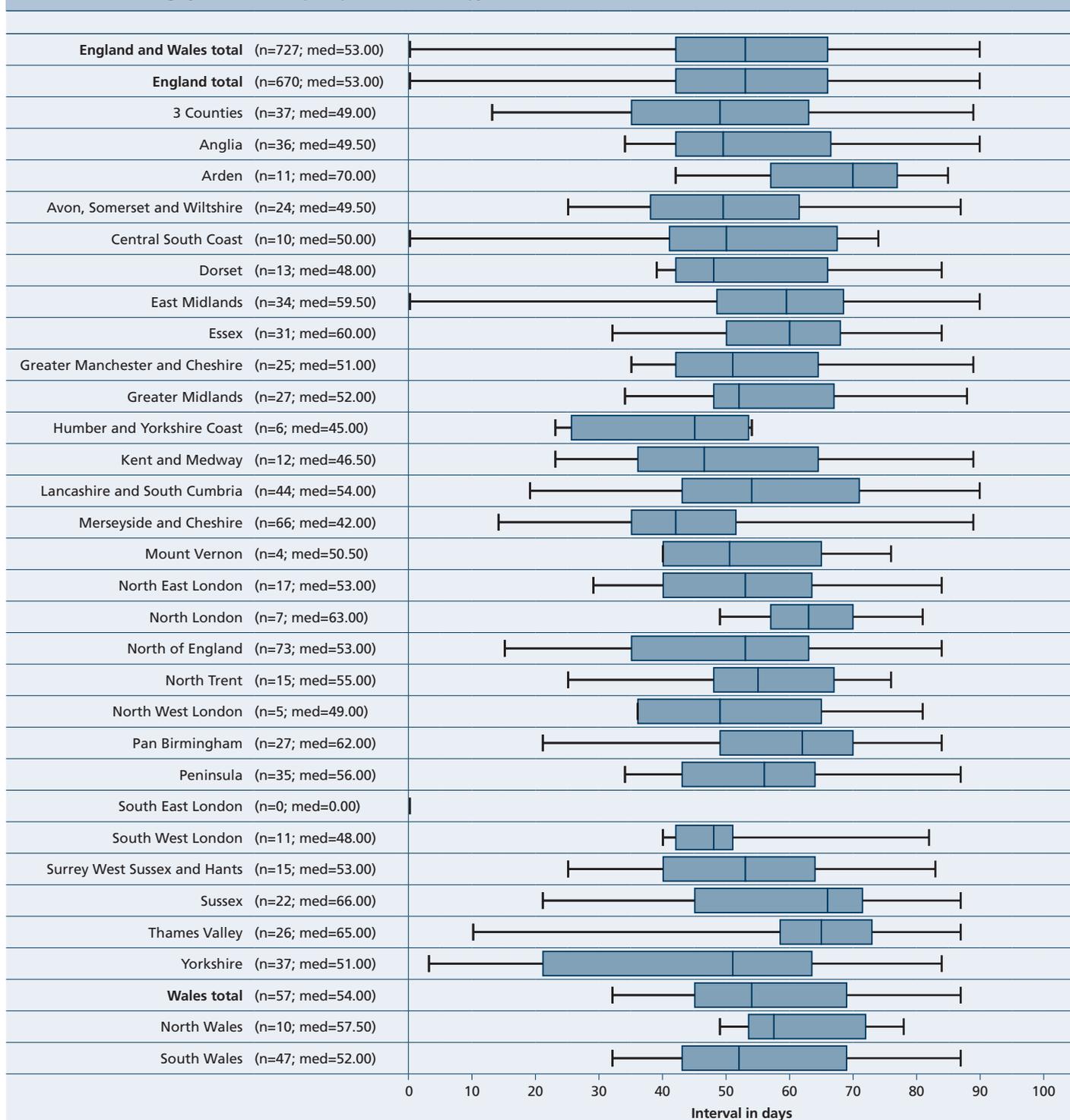
4.8.7 Surgical length of stay

- Improving Outcomes, A Strategy For Cancer³⁷, published in 2011, highlighted that the large majority of cancer patients do not want to be admitted to hospital unless it is absolutely necessary and wish to be in hospital for as short a time as possible. This has the potential benefit of freeing up NHS resources, which can be redeployed to treat more patients and deliver the latest treatments.
- This year for the first time we have collected date of discharge information, which allows calculation of the post-procedural length of stay. Of 4123 cases having surgery, 4646 surgical records were created, 3655 were a single record and 468 were cases had two or more surgical records. 3340 of these (71.9 per cent) contain a date of discharge with a median length of stay of three days.
- The median length of stay varied according to the cancer site, in larynx (622 cases) the median was one day, in oral cavity (1426 cases) the median was seven days, in hypopharynx (98 cases) the median was 11 days and for bone tumours (54 cases) the median was 13 days.
- With the pressures on hospital beds, this analysis can help plan the inpatient requirements for hospitals in dealing with their caseload, ensuring that adequate resources are available. By having median length of stay available the ability to plan discharges and ensure adequate social care packages are available in a timely fashion to reduce delayed discharge. The audit will continue to monitor this in future reports.

4.8.8 Interval to adjuvant radiotherapy

- Adjuvant radiotherapy is a key part of many head and neck treatment plans and ideally should be started within six weeks of surgery. As has been repeatedly identified in previous Annual Reports, there are identifiable delays in accessing radiotherapy services. Where adjuvant radiotherapy is required it can commonly be determined prior to surgery and therefore to minimise delays the forward planning of adjuvant radiotherapy can be helpful.

Figure 4.8.8
Interval from date of surgery to start date of postoperative radiotherapy



- The median of 53 days for all sites (49 days seventh report) has increased by four days. Of the 4123 patients undergoing primary surgery only 781 patients were reported as having postoperative radiotherapy. This is considerably less than would be expected in clinical practice and needs to be interpreted with care.
- Examining a subset of patients with larynx cancer of 304 patients with early laryngeal cancer having surgery as their primary treatment, 48 had adjuvant radiotherapy (15.8 per cent).
- In advanced laryngeal cancer 206 patients had a total laryngectomy 60 are recorded as receiving adjuvant radiotherapy. In a further 49 patients with insufficient information to assign procedure type adjuvant radiotherapy was delivered.

4.9 Clinical outcomes seventh and eighth Annual Report cohorts

4.9.1 Death

A case file was obtained from the Medical Research Information Service (MRIS) of patients registered in the audit for which there was MRIS evidence, from death certification, of the registrant having died. This was then compared with the cancer network at registration to the National Head and Neck Cancer Audit and a crude death rate calculated by cancer network. These are deaths occurring in less than 14 months from diagnosis.

4.9.1.1 Eighth Annual Report cohort - Deaths recorded within trust submissions for index year after supplementation with MRIS data.

Overall, of the 8272 cases submitted 1032 cases were identified as deceased, (12.5 per cent) within the index year supplemented by MRIS data to 6 December 2012 representing the point of analysis. This includes deaths from all causes, ie crude death rate.

Improvements in crude death rates were seen in all anatomical sub-sites.

We have now seen that over three years there has been a decrease in the proportion of deaths within a year of diagnosis from 15.6 per cent to 12.5 per cent. Care needs to be taken in attributing this to genuine improvements in the quality of delivered patient care, but it remains an encouraging trend to be explored in more detail.

Comparison with the equivalent figures in the sixth and seventh Annual Reports using only the same anatomic sites is shown below.

The in year crude death rate looks at deaths in the index year up to the acquisition of MRIS data. This is different to the annual death rate, which looks at deaths at one year from diagnosis. Cancer networks vary in the in-year crude death rate varying from eight per cent to 24.8 per cent, with the England and Wales average being 12.2 per cent. Details by cancer network can be found in [Appendix 6](#).

For the first time we have examined deaths in the index year supplemented by MRIS data at 90 days after the close of the audit submission and then analysed deaths at 30, 60 and 90 days and applied confidence intervals to the analysis.

This identified one cancer network as a potential outlier with a high mortality rate in comparison to other cancer networks in England and Wales. In line with the Department of Health detection and management of outliers policy, we informed the cancer network and constituent provider organisations of the findings and asked them to check their submissions to examine what factors may have been contributory and develop an appropriate response. This investigation included a case by case review by clinicians and logistical regression analysis, which determined that case mix factors, in particular a high number of patients presenting with advanced disease, was responsible for the higher than expected crude death rate within the cancer network. When case mix adjustment was applied the cancer network was no longer seen as an outlier.

Our aim remains to develop a robust case mix adjustment model in the future.

Examining the three most common anatomic sites-larynx, oral cavity and oropharynx, there was again, considerable variation between cancer networks in England and Wales. Larynx, cancer crude mortality ranged from 4.2 per cent to 21.9 per cent, oral cavity from 2.7 per cent to 23.4 per cent and oropharynx from 4.1 per cent to 20.0 per cent.

Table 4.9.1.1a
Number of deaths in the index period within one year of diagnosis supplemented by MRIS data to December 6 2012 (date of MRIS extraction)

	Larynx	Oral cavity	Oropharynx	Hypopharynx	Nasopharynx	Salivary Glands	Nasal Cavity & Sinus	Bone Tumours - Mandible & Maxilla	Total
Number of deaths	187	324	254	128	13	49	55	22	1032
Total number of cases	1900	2529	2303	456	172	444	364	104	8272
Proportion died	9.8	12.8	11.0	28.1	7.6	11.0	15.1	21.2	12.5

Table 4.9.1.1b
Proportion of deaths in the index period within one year of diagnosis supplemented by MRIS data comparing sixth, seventh and eighth reports

	Larynx	Oral cavity	Oropharynx	Hypopharynx	Nasopharynx	Major Salivary Glands	Total
Proportion of deaths sixth report	12.1	16.7	14.7	30.6	13.1	15.3	15.6
Proportion of deaths seventh report	11.2	14.3	14.1	30.8	16.6	11.1	14.4
Proportion of deaths eighth report	9.8	12.8	11.0	28.1	7.6	11.0	12.2

4.9.1.2 Seventh Annual Report cohort - deaths recorded within one year of date of diagnosis by supplementation with MRIS data

Table 4.9.1.2
Updated number of deaths (crude death rate) within one year of diagnosis using data from seventh Annual Report, cohort with a date of diagnosis November 2010 - October 2011

	Larynx	Oral cavity	Oropharynx	Hypopharynx	Nasopharynx	Major Salivary Glands	Total
Number of deaths	299	445	419	199	38	87	1487
Total number of cases	1776	2028	2035	467	169	404	6879
Proportion died	16.8	21.9	20.6	42.6	22.5	21.5	21.6
Previously reported proportion deceased in 7th Annual Report at close of extraction	11.2	14.3	14.1	30.8	16.6	11.1	14.4

- The crude death rate of the 6879 patients submitted in the seventh Annual Report at one year is 21.6 per cent overall. This confirms both the significant mortality of head and neck cancer and the impact of co-morbidities in this patient population.
- Comparative one year crude death rates for breast cancer (7.5 per cent), lung cancer (73.9 per cent) and colorectal cancer (31.6 per cent) set the figure above in context.

4.9.1.3 Cumulative survival analysis by cohort

Table 4.9.1.3
Cumulative survival analysis by submission cohort and anatomic subsite

Primary Site Group	2-years crude survival (95% confidence intervals)	
	Nov 2008 - Oct 2009	Nov 2009 - Oct 2010
Larynx	73.1 (70.8-75.2)	73.0 (70.8-75.1)
Oral cavity	66.0 (63.7-68.3)	66.4 (64.2-68.5)
Oropharynx	69.5 (67.1-71.7)	70.3 (68.2-72.3)
Hypopharynx	43.3 (38.2-48.5)	41.7 (36.9-46.6)
Nasopharynx	70.0 (62.9-76.2)	69.5 (62.8-75.5)
Major salivary glands	64.5 (59.8-68.9)	70.4 (66.0-74.4)
Total	67.5 (66.2-68.7)	68.1 (66.9-69.2)

- From the accumulated DAHNO submissions, supplemented by MRIS death data, survival at two years from the date of diagnosis is presented, now including the 2008-2009 and 2009-2010 cohorts with confidence intervals. This demonstrates that in larynx cancer nearly three quarters of patients are alive at two years. In oral cavity cancer survival decreases to just over two-thirds at the same point.
- Across the audit cohorts no significant change in survival is seen, and thus these crude mortality figures are a useful indicator for commissioners and patient groups. We have not seen significant changes in survival despite, as noted in pathways of care, some changes in the use of surgical and non-surgical treatment modalities. In the United States⁴⁰ a decline in survival rates had been noted which has opened a debate on the causative factors. The audit will continue to monitor changes in crude mortality.

- The audit is working to provide data for case mix adjusted survival analyses, but is handicapped by the data quality of key contributory factors of stage, co-morbidity, performance status. The addition of current status would allow the production of disease specific survival. MDTs are encouraged to improve submission levels in these key areas.

4.9.1.4 Seventh Annual Report cohort – deaths recorded within one year of date of diagnosis by supplementation with MRIS data crude death rate by cancer network

This chart provides an overview of both the impact of head and neck cancer as well as stimulating organisations to submit data quality items that impact on case mix adjustment, so that more meaningful comparisons can be made in future reports.

However, the figures below should be considered cautiously. Crude death rate reflects death from any cause (not just cancer) and cannot be considered in isolation as a marker of the impact of any treatment received, nor of the efficacy of services. No adjustments to the figures have been made and each cancer network will vary in its case mix and the background health of individuals presenting with cancer. In addition the cancer anatomic subsites vary in their mortality rates and thus variation in case distribution by cancer network will impact.

Table 4.9.1.4
Seventh Annual Report cohort - deaths recorded within one year of date of diagnosis by supplementation with MRIS data - crude death rate by cancer network

Cancer Network	Proportion died (%)						Total
	Larynx	Oral cavity	Oropharynx	Hypopharynx	Nasopharynx	Major Salivary Glands	
3 Counties Total	14.0	24.4	19.4	28.6	50.0	14.3	20.7
Anglia Total	17.3	17.7	13.4	46.2	16.7	8.0	16.5
Arden Total	27.3	20.0	14.7	50.0	100.0	37.5	23.1
Avon, Somerset and Wiltshire Total	22.6	15.2	23.2	57.1	18.2	15.4	22.4
Central South Coast Total	17.5	23.0	16.3	33.3	14.3	9.1	20.4
Dorset Total	14.3	24.3	9.8	40.0	0.0	0.0	16.9
East Midlands Total	7.9	20.4	17.1	57.7	28.6	14.3	25.9
Essex Total	12.2	30.0	25.0	62.5	20.0	50.0	25.9
Greater Manchester and Cheshire Total	21.5	26.1	14.8	39.3	10.0	29.2	22.2
Greater Midlands Total	11.6	22.4	26.4	57.9	42.9	16.7	23.3
Humber and Yorkshire Coast Total	13.9	31.0	25.6	57.1	0.0	33.3	26.0
Kent and Medway Total	12.5	24.0	15.0	46.2	50.0	16.7	20.0
Lancashire and South Cumbria Total	7.3	27.4	23.8	50.0	0.0	31.8	22.7
Merseyside and Cheshire Total	18.5	14.3	22.6	42.4	20.0	23.8	20.8
Mount Vernon Total	8.3	33.3	33.3	52.9		0.0	26.9
North East London Total	22.0	23.5	21.4	28.6	16.7	28.6	22.7
North London Total	23.9	23.7	34.2	50.0	33.3	35.7	29.3
North of England Total	18.1	21.9	23.2	40.0	57.1	16.7	22.6
North Trent Total	21.7	19.5	12.1	30.8	50.0	22.2	19.8
North West London Total	42.1	6.1	31.0	66.7	0.0	33.3	27.8
Pan Birmingham Total	13.2	21.2	16.9	41.2	50.0	36.4	20.4
Peninsula Total	10.9	26.7	22.7	42.9	20.0	44.4	24.2
South East London Total	17.6	24.5	21.9	33.3	40.0	0.0	21.4
South West London Total	18.4	24.6	11.9	12.5	16.7	14.3	18.5
Surrey West Sussex and Hants Total	17.9	16.0	23.1	28.6	0.0	23.5	19.8
Sussex Total	10.0	23.9	27.7	33.3	33.3	22.2	22.3
Thames Valley Total	14.0	21.3	18.4	54.5	0.0	27.3	20.3
Yorkshire Total	12.5	27.0	28.6	39.5	11.8	14.3	23.9
England Total	16.4	22.3	20.9	43.1	23.3	22.1	21.8
North Wales Total	4.2	16.7	15.2	50.0		0.0	13.2
South Wales Total	29.8	14.3	18.4	30.4	11.1	18.2	20.7
Wales Total	24.1	14.8	17.7	33.3	11.1	14.3	19.1
England and Wales Total	16.8	21.9	20.7	42.5	22.6	21.5	21.6

Of 6870 cases of head and neck cancer submitted in the seventh report, 1487 (21.5 per cent) had died from all causes by 14 months from diagnosis. The figure for England was 21.8 per cent and for Wales was 19.1 per cent.

At the inception of the audit, one of the key rationales was a belief that if the worst performing trusts could match the delivery of the best performing, then without a major technological advance survival could be improved. The figures presented are a further small step to meeting this aim.

4.9.2 Loco-regional recurrence within one year and two years of diagnosis

The audit is working to provide data for analysis of recurrence. A key requirement is capturing details on current status for patients at regular intervals following completion of treatment. This allows assessment of disease specific survival and interval to recurrence.

Only around 11.5 per cent of records (diagnosed between 01 January 2004 and 31 October 2012) contain current status information and it is strongly encouraged for MDTs to collect and submit this information for all patient cohorts for the ninth Annual Report.

Table 4.9.3
Number of treatment related deaths (to include death within 30 days of surgery and/or within the same admission and within 30 or 90 days of chemotherapy/radiotherapy/chemoradiotherapy)

Description	8th Annual Report*	7th Annual Report	6th Annual Report
Deaths within 30 days of diagnosis			
Number of reported deaths within 30 days of diagnosis or with discharge destination 'death' after any admission	165	112	108
Deaths following surgical treatment			
Number of reported deaths within 30 days of surgery or with discharge destination 'death' after surgery	54	33	25
Of these patients, the number whose death followed diagnostic surgery	3	5	5
Of these patients, the number whose death followed recorded surgery with curative intent	41	21	13
Of these patients, the number whose death followed recorded surgery with palliative intent	5	1	3
Of the others, the number whose death followed recorded surgery with no treatment intent recorded (blank)	1	6	4
Of the others, the number whose death followed recorded surgery with unknown treatment intent recorded (9)	4		
Total number of patients with recorded curative intent in surgery table	3228		
Deaths following non-surgical treatment			
Number of reported deaths within 30 days of radiotherapy or with discharge destination 'death' after radiotherapy	53	38	31
Number of reported deaths within 90 days of radiotherapy or with discharge destination 'death' after radiotherapy	136	111	87
Number of reported deaths within 30 days of chemotherapy or with discharge destination 'death' after chemotherapy	22	21	9
Number of reported deaths within 90 days of chemotherapy or with discharge destination 'death' after chemotherapy	41	42	25
Number of reported deaths within 30 days of chemoradiotherapy or with discharge destination 'death' after chemo-radiotherapy	7	2	2
Number of reported deaths within 90 days of chemoradiotherapy or with discharge destination 'death' after chemo-radiotherapy	30	10	19

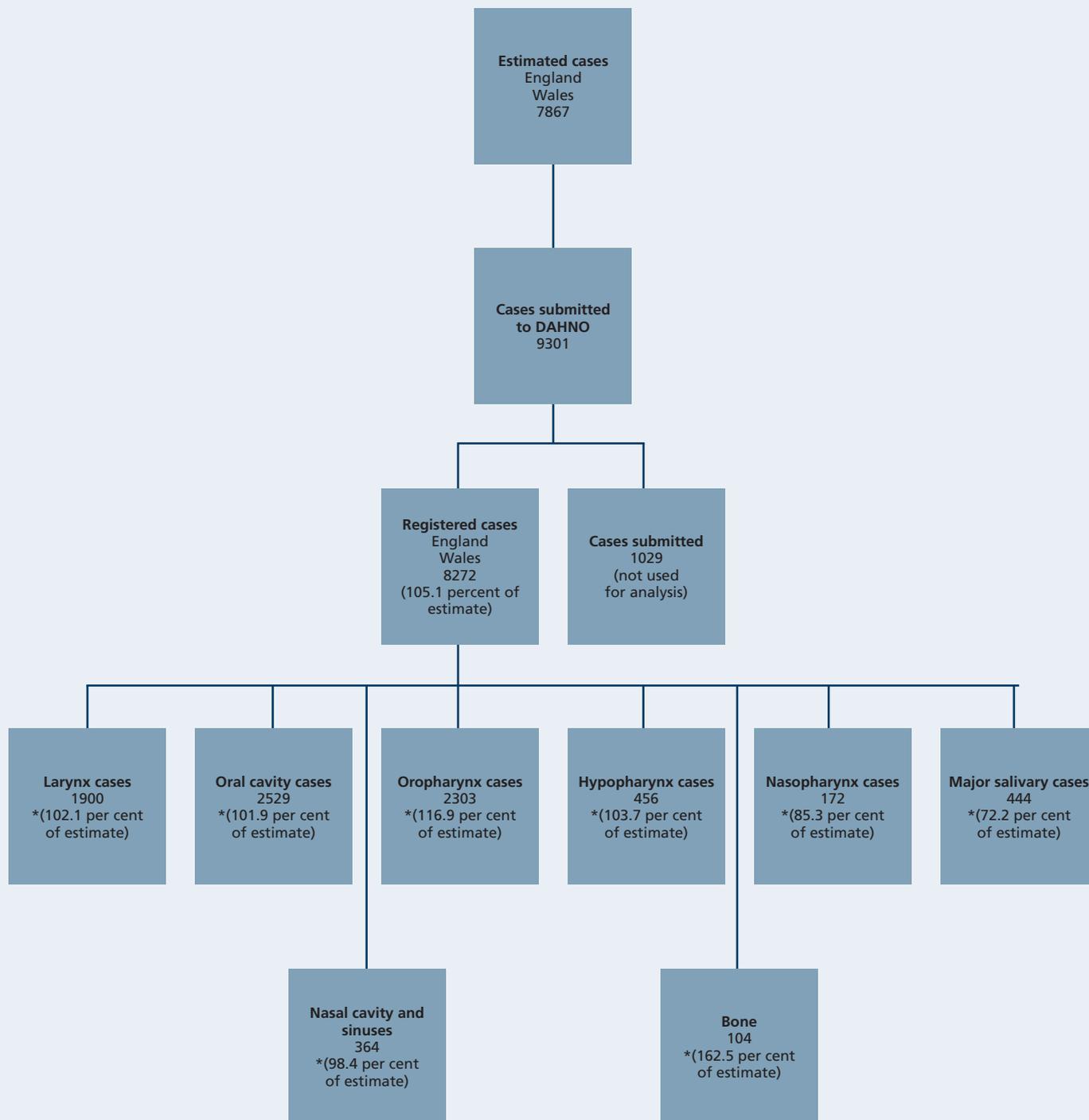
* data from 8 anatomical sites

4.9.3 Number of treatment-related deaths (to include death within 30 days of surgery and/or within the same admission and within 30 or 90 days of chemotherapy/radiotherapy/chemo-radiotherapy)

- Performing complex procedures in a predominantly elderly population with significant co-existent co-morbidities will, however, inevitably lead to some deaths in the peri-operative period.
- Overall, head and neck surgery remains safe, with 54 peri-operative deaths of which 41 were in some 3228 surgical procedures (1.27 per cent), carried out with curative intent. This has been consistently identified throughout each of the eight Annual Reports. The remaining ten deaths occurred in five patients where treatment was palliative and five where there was no treatment intent recorded.
- In looking at post-surgery deaths within 90 days of treatment, 112 deaths occurred and the report will look in more detail at this group in future reports as deaths within this timeframe, may reflect poor case selection.
- To meet the requirements of NHS England, surgeon specific perioperative mortality data will be published during 2013.
- For non-surgical treatment similar caveats apply in relation to the complexity of treatment and its impact on a co-morbid population. We have identified a rising trend in the use of chemoradiotherapy. This, in comparison to radiotherapy alone, inevitably involves a trade-off of the potential to improve survival against a greater risk of complications and in some cases a toxicity induced death.
- Non-surgical deaths have been reported after 30 and 90 days to reflect the impact of the whole treatment course. However, within 90 days some patients treated with palliative intent may have succumbed to their disease.
- There were 2365 patients who underwent non-surgical treatment (radiotherapy, chemotherapy and chemoradiotherapy excluding palliative intent), 82 deaths occurred within 30 days of first treatment (3.47 per cent). 207 deaths occurred within 90 days of non-surgical treatment commencing (8.75 per cent). This figure represents an increase from last year's six per cent and further analysis in subsequent reports will help uncover trends in this area.
- To delineate the proportion of the non-surgical treatment deaths, which are in palliative patients, it is important that MDTs submit data on treatment intent to allow more accurate assignment of outcome.
- At the outset of the audit it was proposed "by matching the outcomes from the cancer networks with the lowest rates to those of the highest, we would probably be able to improve long-term survival rates without providing any therapeutic development". Recent publications have identified the concept of "unnecessary deaths" referring to the potential impact of complications of treatment or sub-standard care. It has been suggested that this could amount to up to 170 deaths per year in head and neck cancer. Further work is needed to understand and validate this number and explore what would impact to reduce this number.

Appendix 1

Analysis of submitted cases (tumours) against estimate by anatomic group site



* Number and percentage submission included 220 cases from private hospitals, GPs or unknown cancer networks.

Appendix 2

Number of registered new head and neck primaries by subsite			
Site	Subsite	Total	Cumulative cases from audit inception
Larynx	Glottis	1000	5819
	Supraglottis	470	2594
	Larynx, unspecified	343	1934
	Subglottis	54	248
	Laryngeal cartilage	33	194
	Total	1900	10879
Oral cavity	Tongue	1157	5172
	Cheek mucosa	210	1074
	Floor of mouth	483	2179
	Hard palate	85	658
	Lip, inner aspect	115	602
	Mouth unspecified	107	285
	Retromolar area	178	846
	Upper and lower gingivae	179	983
	Vestibule of mouth	15	251
	Total	2529	12050
Oropharynx	Base of tongue	680	2726
	Lateral wall	36	129
	Oropharynx unspecified	186	722
	Posterior wall	36	152
	Soft palate	188	730
	Tonsil	1129	4167
	Uvula	22	109
	Vallecula	26	96
Total	2303	8831	
Hypopharynx	Aryepiglottic fold	15	68
	Overlapping lesion hypopharynx	109	498
	Piriform sinus	245	952
	Postcricoid region	51	274
	Posterior wall	36	159
	Total	456	1951
Nasopharynx	Total	172	841
Major salivary glands	Total	444	2001
Nasal cavity and sinus	Cartilage and septum nose	201	201
	Maxillary sinus	119	119
	Ethmoidal sinus	23	23
	Frontal sinus	1	1
	Sphenoidal sinus	6	6
	Accessory sinus	14	14
	Total	364	364
Bone tumours	Bones of skull and face	27	27
	Bones of mandible	77	77
	Total	104	104
	Total	8272	36931

Appendix 3

Head and neck cancer histological diagnoses reported

	M8020/3	M8041/3	M8070/3	M8071/3	M8051/3	M8072/3	SCC VAR	M8140/3	M8200/3	M8430/3	M8550/3	M8941/3	SAL VAR	Other	Blank	Total
	Undifferentiated carcinoma	Small cell carcinoma	Squamous ca (NO5)	Keratinising squamous carcinoma	Verrucous carcinoma	Non-keratinising squamous carcinoma	Squamous cell carcinoma variants (see below box)	Adeno-carcinoma NOS	Adenoid cystic carcinoma	Muco-epidermoid carcinoma	Acinic cell carcinoma	Carcinoma ex pleomorphic adenoma	Other salivary variants (see below box)			
Larynx total	7	7	1417	68	5	5	5	5	0	0	0	0	3	23	355	1900
Oral cavity total	4	4	1910	119	12	16	7	19	29	9	8	2	13	23	354	2529
Oropharynx total	9	2	1674	74	0	43	7	10	14	2	1	1	14	15	437	2303
Hypopharynx total	2	1	338	24	0	4	2	0	0	0	0	0	2	4	79	456
Nasopharynx total	25	0	78	4	0	12	0	1	4	0	0	0	0	1	47	172
Major salivary glands total	13	3	82	7	0	0	2	49	49	14	49	19	28	6	123	444
Nasal cavity and sinus	7	4	177	5	0	3	6	24	8	0	1	0	5	19	105	364
Bone tumours	1	0	70	4	1	0	1	1	1	0	0	0	0	7	18	104
Total	68	21	5746	305	18	83	30	109	105	25	59	22	65	98	1518	8272

Squamous cell carcinoma variants	
Adenoid squamous carcinoma	M8075/3
Spindle cell squamous carcinoma	M8074/3

Other salivary variants			
Salivary duct carcinoma	M8500/3	Adeno-squamous carcinoma	M8560/3
Basal cell adenocarcinoma		M8147/3	
Polymorphous low grade adenocarcinoma	M8525/3	Epithelial-myoepithelial carcinoma	M8562/3
Mucinous adenocarcinoma		M8480/3	

Appendix 4

Clinical lines of enquiry (2012) and derivation from audit data fields

The Clinical Lines of Enquiry below are those introduced to support the 2012 / 2013 Peer Review Programme, and were in place during the collection period.

CLE national indicators

1. Percentage of new cases of head and neck cancer discussed at MDT*
2. Percentage of new cases of head and neck cancer discussed at MDT* where recorded T, N and M staging category is evident
3. Percentage of cases of head and neck cancer* where the interval from biopsy to reporting is less than ten days
4. Percentage of new cases of head and neck cancer* where confirmed seen by a Clinical Nurse Specialist (CNS) prior to commencement of treatment
5. Percentage of new cases of head and neck cancer* confirmed as having any pre-operative/pre-treatment (includes radio and chemotherapy) dietetic assessment
6. Percentage of cases of head and neck cancer* confirmed as having any pre-operative/pre-treatment dental assessment

New cases* as denominator are calculated from the trust submissions with a date of diagnosis in the index period, and where an included anatomic site and valid histological diagnosis are entered.

[*Relates to cancers of the larynx, oral cavity, oropharynx, nasopharynx, hypopharynx and nasal cavity, sinus, bone and major salivary glands matching to DAHNO inclusion criteria.]

Appendix 5

2012 Membership of DAHNO/NCIN Head and Neck SSCRG and Professional and Charitable Bodies Represented

Chair SSCRG	Richard Wight	DAHNO Audit Chair, BAHNO Audit Chair
Cancer Registry	Monica Roche	Public Health England - South East Knowledge and Intelligence Team
NCIN	Di Riley	Associate Director – Clinical Outcomes Programme
NCIN	Nicky Coombes	SSCRG Programme Manager
NCIN - COSD	Trish Stokes	Cancer Outcomes Datasets
Peer Review	Lucy Evans	National Cancer Peer Review Team
HQIP	Helen Laing	Healthcare Quality Improvement Partnership
IC - DAHNO	Julie Michalowski	HSCIC, Clinical Audit Support Unit
Consumer	Christine Allmark	National Cancer Research Institute
Voluntary Sector 1	Malcolm Babb	National Association of Laryngectomy Clubs
Voluntary Sector 2	Iain Hutchinson	Saving Faces
Clinical Psychology	Elsbeth Desert	Clinical Psychology
Surgery - ENT	Mark Watson	ENT UK Head and Neck
Nursing	Kathleen Mais	British Association of Head and Neck Oncology Nurses
Nursing - deputy	Lynda Farmer	British Association of Head and Neck Oncology Nurses
Oncology – Clinical	Amanda Salisbury	Head and Neck Oncology
Palliative Care	Ged Corcoran	Palliative Care Association
Pathology - Oral	Edward Odell	British Oral and Maxillo Facial Pathology Association
Pathology – Head and Neck	Julia Woolgar	Royal College of Pathologists
Radiology	Julie Olliff	Royal College of Radiologists
Restorative Dentistry	Lorna McCaul	President of British Society of Prosthodontics
BAHNO	Cyrus Kerawala	BAHNO Council Member
DAHNO	Graham Putnam	Vice Chair of DAHNO
Surgery - Oral and Maxillofacial Surgery	Austen Smith	British Association of Oral and Maxillofacial Surgeons
Therapies - Dietetics	Rachael Donnelly	British Dietetic Association
Therapies - Speech and Language	Jane Thornton	Royal College of Speech and Language Therapists
Thyroid Sub group Chair	David Chadwick	Thyroid Working Group

Appendix 6

Findings summary by network

Network	Interval biopsy to reporting <=10 days	% Of cases where CNS at breaking bad news	Median interval from diagnosis to first treatment	Median interval from diagnosis to first treatment-surgery	Median interval from diagnosis to first treatment-radiotherapy	1 year crude mortality
3 Counties	73.9 ■	57.8 ■	38.0	34.0	41.0	13.1
Anglia	73.1 ■	41.3 ■	29.0	24.0	33.0	12.3
Arden	89.7 ●	72.5 ●	43.5	28.0	47.0	24.8
Avon, Somerset and Wiltshire	85.0 ●	26.7 ■	27.0	17.0	32.0	8.3
Central South Coast	86.6 ●	61.6 ■	39.0	36.0	43.5	13.9
Dorset	88.4 ●	64.2 ■	30.0	30.0	35.0	14.5
East Midlands	92.4 ●	50.8 ■	29.0	27.0	48.0	12.1
Essex	94.0 ●	91.9 ●	33.0	26.0	39.0	9.9
Greater Manchester and Cheshire	93.6 ●	31.2 ■	32.0	29.5	36.0	12.3
Greater Midlands	83.3 ●	69.0 ■	32.0	29.0	46.0	11.6
Humber and Yorkshire Coast	81.7 ●	1.2 ▲	27.5	24.0	25.0	13.2
Kent and Medway	85.3 ●	5.5 ▲	35.0	34.5	40.5	11.6
Lancashire and South Cumbria	90.5 ●	23.9 ■	24.5	17.5	41.0	14.0
Merseyside and Cheshire	84.6 ●	24.2 ■	27.5	21.0	35.5	12.2
Mount Vernon	72.1 ■	74.4 ●	35.0	26.5	46.5	18.5
North East London	81.6 ●	53.8 ■	28.0	22.0	41.0	14.8
North London	90.8 ●	73.1 ●	34.0	31.0	40.5	10.6
North of England	92.0 ●	55.5 ■	38.0	30.0	47.5	12.4
North Trent	90.4 ●	44.2 ■	35.0	33.0	47.0	12.3
North West London	84.9 ●	39.9 ■	25.0	23.0	0.0	13.3
Pan Birmingham	89.6 ●	62.0 ■	41.0	32.0	48.5	11.5
Peninsula	84.5 ●	27.1 ■	34.0	28.0	50.5	12.6
South East London	0.0 ▲	0.5 ▲	23.0	17.0	31.0	8.0
South West London	88.8 ●	61.1 ■	28.5	26.0	39.0	12.4
Surrey West Sussex and Hants	100 ●	50.7 ■	35.0	28.5	49.5	11.8
Sussex	70.0 ■	19.7 ▲	35.0	35.5	46.0	9.9
Thames Valley	94.7 ●	63.3 ■	22.0	20.0	27.0	9.1
Yorkshire	90.3 ●	37.1 ■	34.0	26.0	44.0	10.9
England	87.2	43.8	32.0	26.0	41.0	12.2
North Wales	91.5 ●		43.0	0.0	62.5	9.3
South Wales	86.6 ●		42.0	40.5	56.0	14.1
Wales	87.6		42.0	36.0	56.0	13.1
England and Wales	87.2		32.0	27.0	41.0	12.2

Key	Key
<50% ▲	<20% ▲
50% to 75% ■	20 to 70% ■
>75% ●	>70% ●

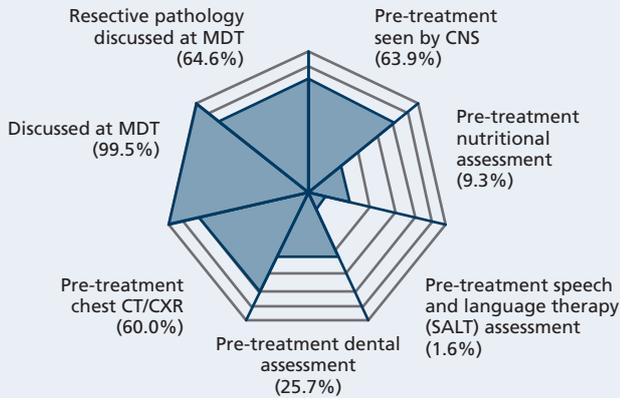
Appendix 7

Pathway measures summary and percentage of pathway indicators met (by first treating network)

3 Counties										Anglia									
Percentage of ideal patients pathway indicators achieved										Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	0	1	2	3	4	5	6	7	Mean number of key aspects recorded		
0.0	10.4	10.4	24.5	24.5	14.2	16.0	0.0	3.7	0.7	36.1	29.2	12.5	11.8	6.9	2.8	0.0	2.3		
Arden										Avon, Somerset and Wiltshire									
Percentage of ideal patients pathway indicators achieved										Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	0	1	2	3	4	5	6	7	Mean number of key aspects recorded		
0.0	7.4	9.3	27.8	18.5	18.5	14.8	3.7	3.9	0.7	37.7	20.6	18.8	9.4	2.2	0.7	0.0	2.1		
Central South Coast										Dorset									
Percentage of ideal patients pathway indicators achieved										Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	0	1	2	3	4	5	6	7	Mean number of key aspects recorded		
0.0	11.1	30.6	31.8	14.3	15.9	6.4	0.0	3.2	0.0	0.0	10.0	12.5	32.5	27.5	15.0	2.5	4.3		

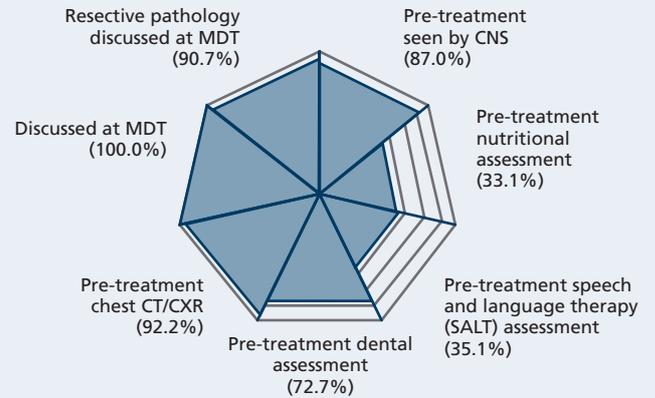
Pathway measures summary and percentage of pathway indicators met (by first treating network)

East Midlands



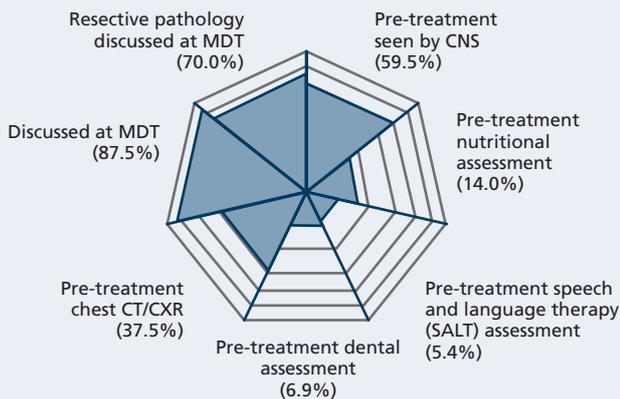
Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
0.4	7.5	19.6	39.2	25.4	6.7	1.3	0.0	3.1	

Essex



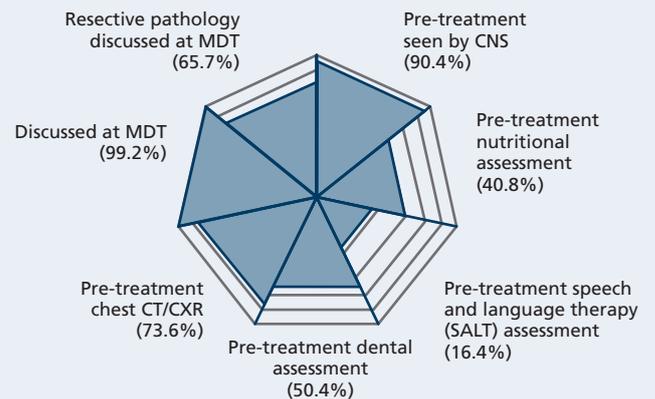
Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
0.0	0.0	3.5	11.6	23.3	33.7	16.3	11.6	4.8	

Greater Manchester and Cheshire



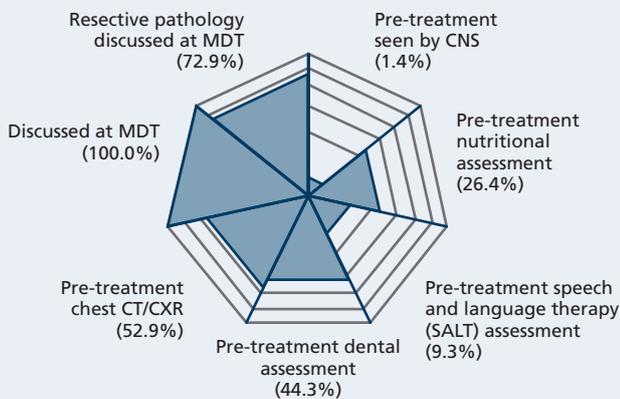
Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
6.2	12.4	15.5	38.9	19.2	2.6	4.2	1.0	2.8	

Greater Midlands



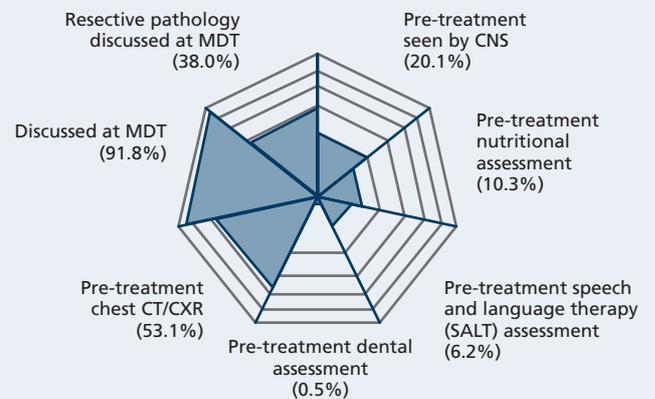
Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
1.5	5.3	10.7	21.4	17.6	13.0	26.7	3.8	4.1	

Humber and Yorkshire Coast



Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
0.0	9.4	28.2	34.1	16.5	10.6	1.2	0.0	2.9	

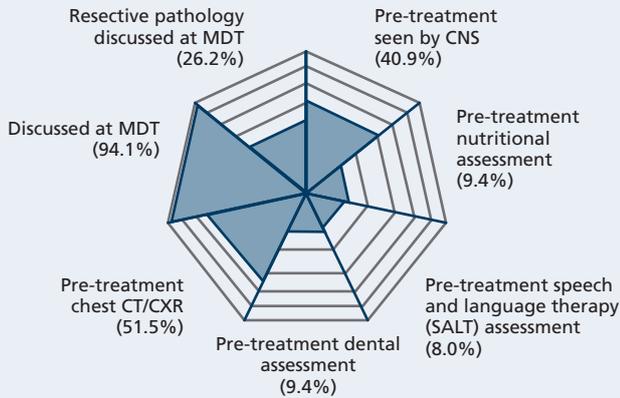
Kent and Medway



Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
1.0	6.0	54.0	9.0	17.0	11.0	1.0	1.0	2.8	

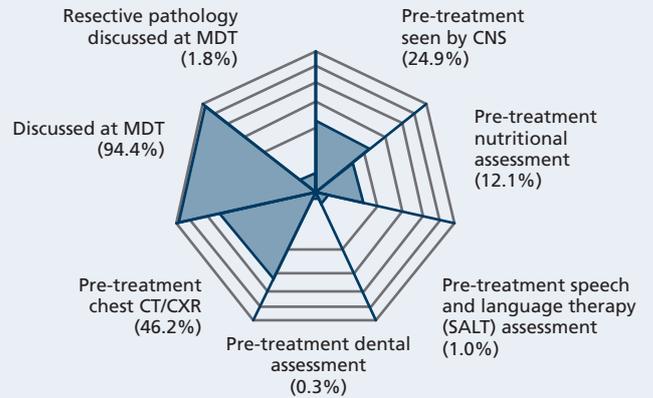
Pathway measures summary and percentage of pathway indicators met (by first treating network)

Lancashire and South Cheshire



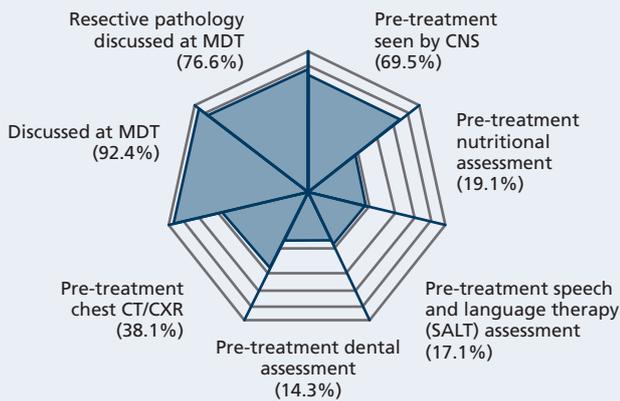
Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
2.1	33.3	28.7	15.9	13.9	5.6	0.5	0.0	2.3

Merseyside and Cheshire



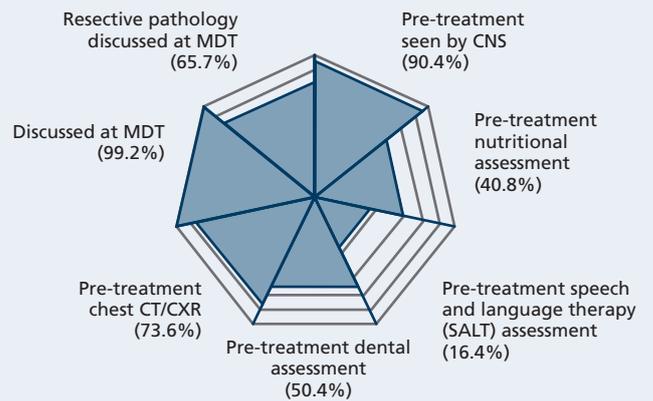
Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
4.4	43.8	37.2	13.1	1.1	0.4	0.0	0.0	1.6

Mount Vernon



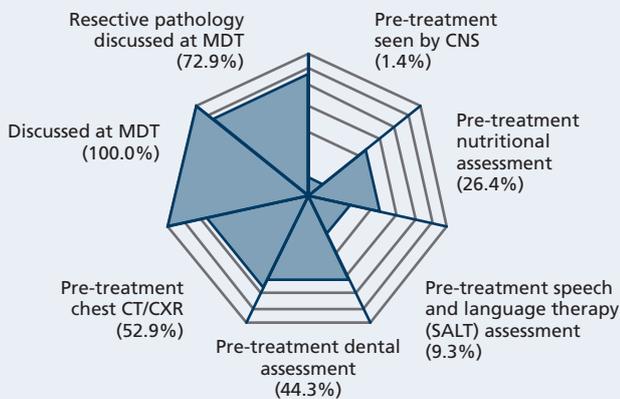
Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
0.0	17.0	19.2	31.9	23.4	6.4	2.1	0.0	2.9

Greater Midlands



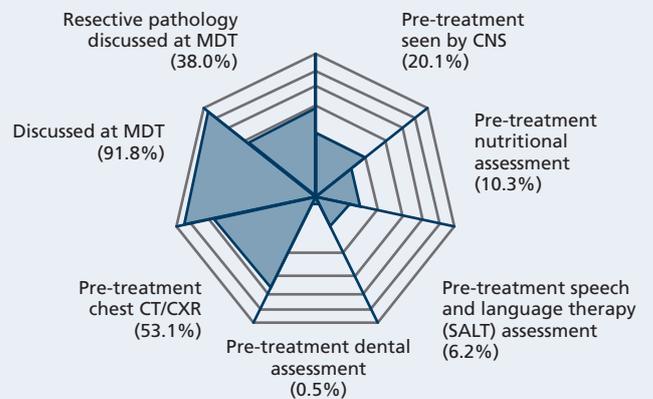
Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
1.5	5.3	10.7	21.4	17.6	13.0	26.7	3.8	4.1

Humber and Yorkshire Coast



Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
0.0	9.4	28.2	34.1	16.5	10.6	1.2	0.0	2.9

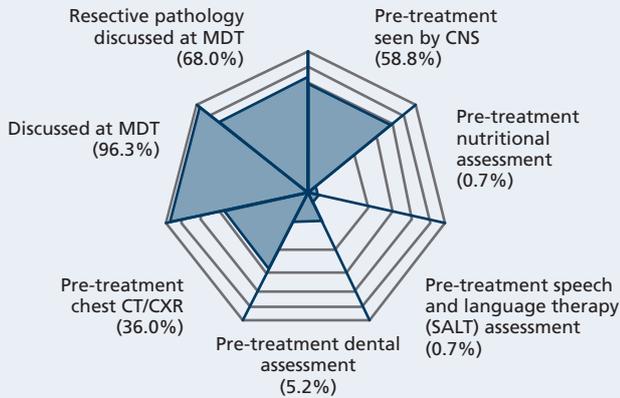
Kent and Medway



Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
1.0	6.0	54.0	9.0	17.0	11.0	1.0	1.0	2.8

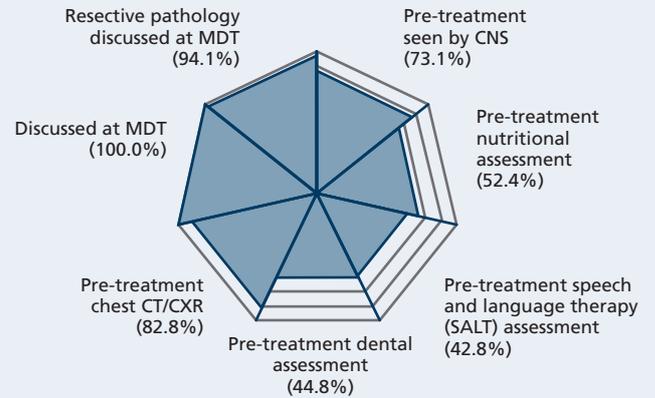
Pathway measures summary and percentage of pathway indicators met (by first treating network)

North East London



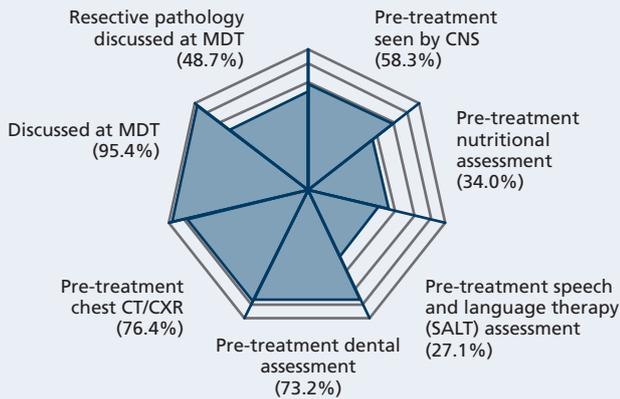
Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
1.0	12.4	30.9	32.0	21.7	1.0	1.0	0.0	2.7

North London



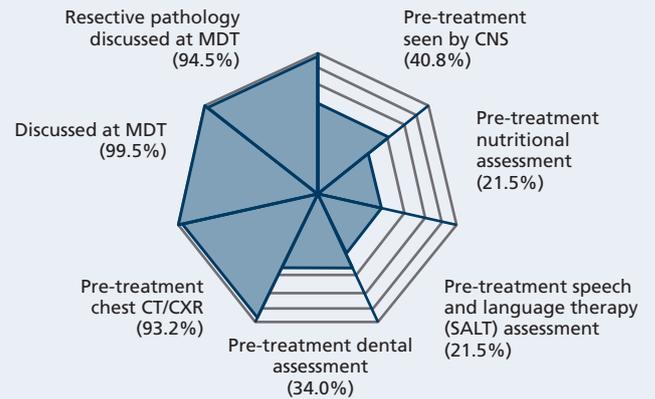
Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
0.0	3.5	7.1	15.3	16.5	18.8	15.3	23.5	4.8

North of England



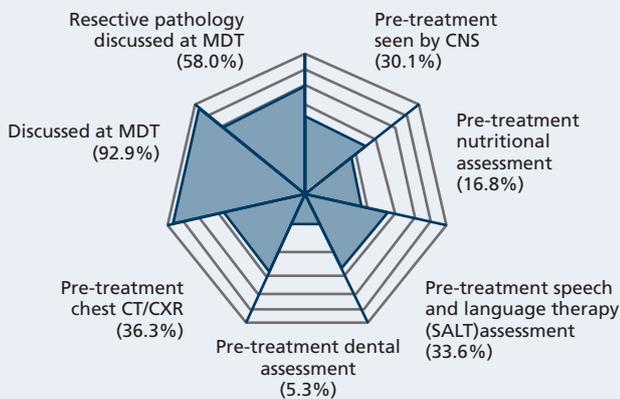
Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
0.7	4.7	19.9	28.2	21.3	9.0	12.6	3.6	3.6

North Trent



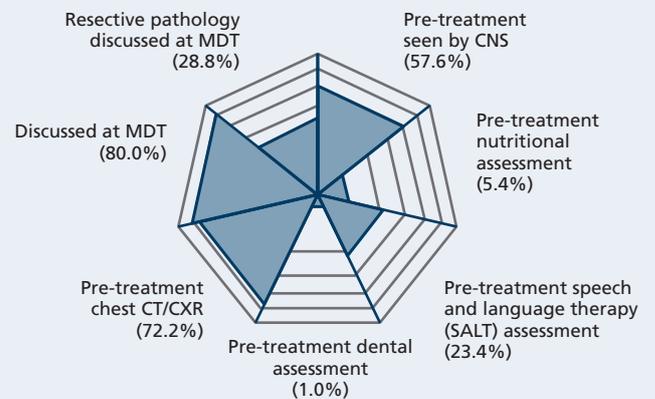
Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
0.0	0.0	3.7	31.2	27.5	33.0	4.6	0.0	4.0

North West London



Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
0.0	11.1	27.2	29.6	17.3	13.6	1.2	0.0	3.0

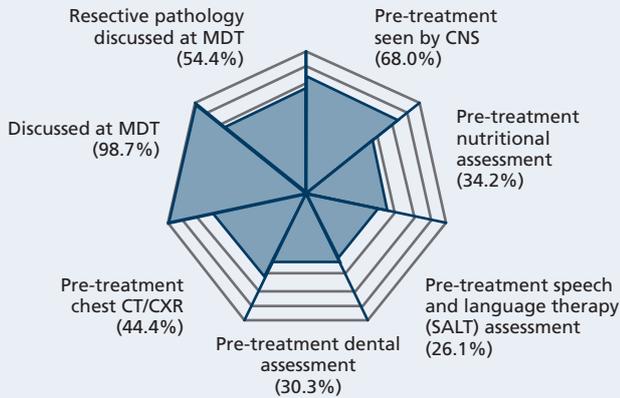
Pan Birmingham



Percentage of ideal patients pathway indicators achieved								
0	1	2	3	4	5	6	7	Mean number of key aspects recorded
0.9	8.5	23.7	50.0	11.9	5.1	0.0	0.0	2.8

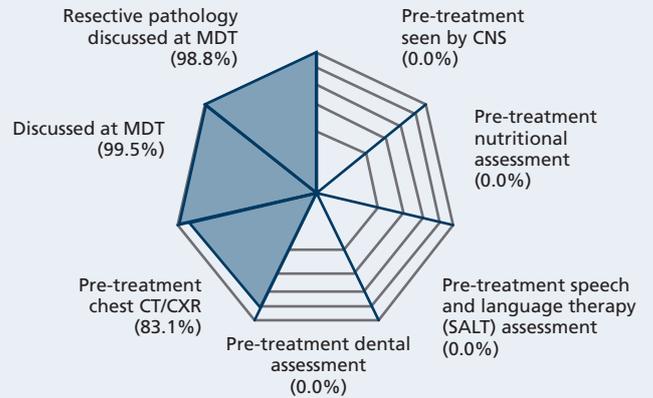
Pathway measures summary and percentage of pathway indicators met (by first treating network)

Peninsula



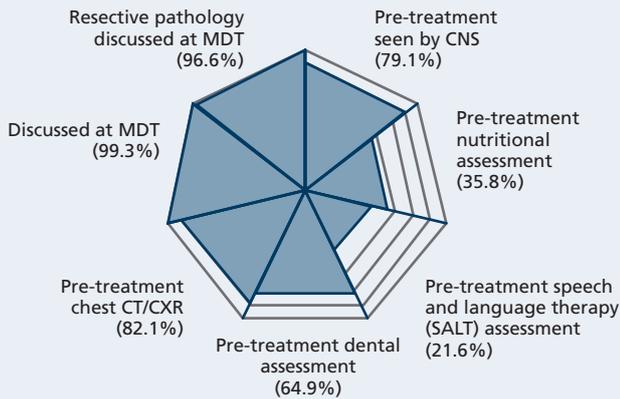
Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
2.0	20.1	24.2	9.4	18.1	10.7	9.4	6.0	3.2	

South East London



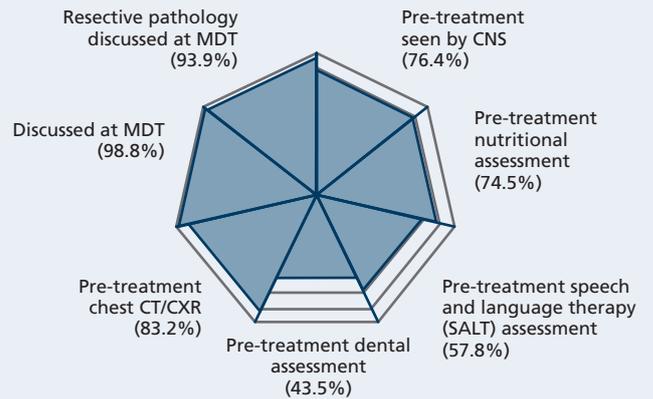
Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
0.0	0.0	19.3	80.7	0.0	0.0	0.0	0.0	2.8	

South West London



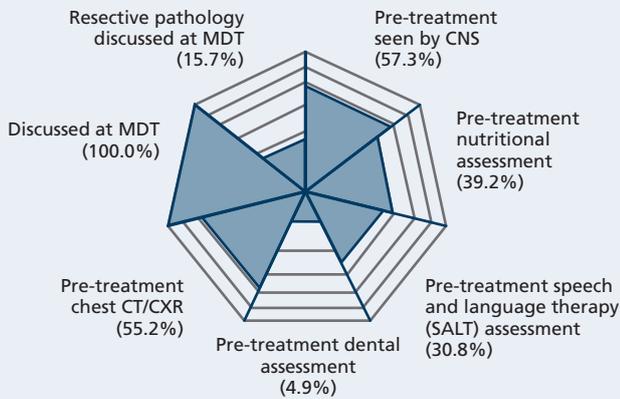
Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
0.0	0.0	1.6	12.5	18.8	23.4	31.3	12.5	5.1	

Surrey West Sussex and Hants



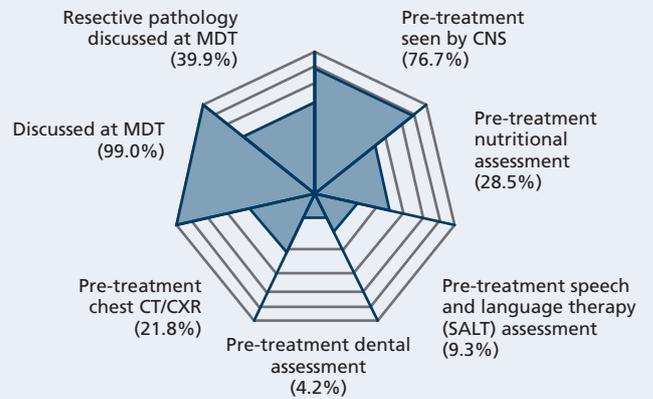
Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
1.2	1.2	13.4	11.0	18.3	14.6	30.5	9.8	4.6	

Sussex



Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
0.0	32.2	17.4	9.1	19.8	19.0	2.5	0.0	2.8	

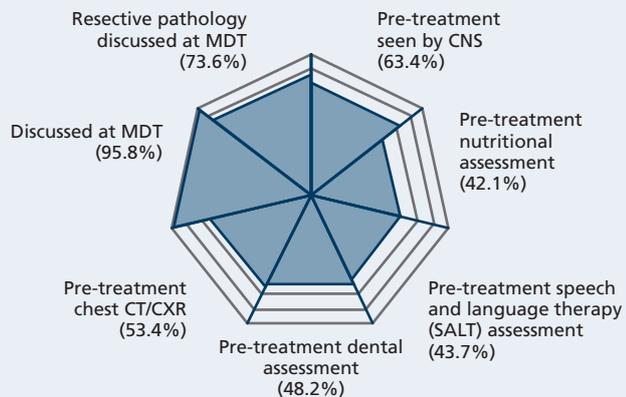
Thames Valley



Percentage of ideal patients pathway indicators achieved									
0	1	2	3	4	5	6	7	Mean number of key aspects recorded	
0.8	13.5	30.1	27.8	24.1	2.3	1.5	0.0	2.7	

Pathway measures summary and percentage of pathway indicators met (by first treating network)

Yorkshire



Percentage of ideal patients pathway indicators achieved

0	1	2	3	4	5	6	7	Mean number of key aspects recorded
2.9	5.4	15.5	20.5	27.2	9.2	5.9	13.4	3.8

Appendix 8

The following documents are available via hyperlinks in the main body of the report.

- 1 Routes of submission
- 2 Nutrition data set
- 3 Count of tumours recorded with performance status - by first MDT organisation
- 4 Number and percentage of early larynx cases first treated by surgery or radiotherapy or no treatment record, by MDT provider
- 5 Number of patients registered with new head and neck primaries of the larynx, oral cavity, oropharynx, hypopharynx, nasopharynx, major salivary glands, ear, nose and sinus cavity including estimates by network
- 6 Number of patients registered with new head and neck primaries of the larynx, oral cavity, oropharynx, hypopharynx, nasopharynx major salivary glands, ear, nose and sinus cavity - by first diagnosis trust
- 7 Number of patients registered with new head and neck primaries of the larynx, oral cavity, oropharynx, hypopharynx, nasopharynx major salivary glands, ear, nose and sinus cavity - by MDT
- 8 Count of new primaries where final pre-treatment T, N and M staging recorded (DT)
- 9 Count of new primaries where final pre-treatment T, N and M staging recorded (DN)
- 10 Count of new primaries where final pre-treatment T, N and M staging recorded (MDT)
- 11 Subsites with final pre-treatment N+ recorded
- 12 Final pre-treatment M category
- 13 Final pre-treatment stage recorded
- 14 Comparison of final pre-treatment stage and post-surgery staging - T category
- 15 Comparison of final pre-treatment stage and post-surgery staging - N category
- 16 Distribution of performance status at point of treatment decision
- 17 Count of co-morbidity by level of decompensation for summated site groups - by MDT organisation
- 18 Count of tumours which had all 3 of stage, PS, co-morbidity - by cancer network
- 19 Percentage of patients where the Clinical Nurse Specialist (CNS) is present at the breaking of bad news
- 20 Percentage of patients seen by Clinical Nurse Specialist prior to commencement of first treatment by MDT
- 21 Percentage of patients seen by Clinical Nurse Specialist prior to commencement of first treatment by network
- 22 Percentage having pre-treatment dental assessment (MDT1)
- 23 Percentage having pre-treatment dental assessment (Network)
- 24 Percentage having pre-treatment dietetic assessment
- 25 Interval from biopsy to reporting (≤ 21 days)
- 26 Percentage having pre-treatment CT +/- MRI +/- US
- 27 Count of pre-treatment PET scans by MDT
- 28 Interval from date of diagnosis to start of first definitive treatment and range of intervals by treating network (surgery)
- 29 Interval from date of diagnosis to start of first definitive treatment and range of intervals by treating network (chemotherapy)
- 30 Interval from date of diagnosis to start of first definitive treatment and range of intervals by treating network (radiotherapy)
- 31 Interval from date of diagnosis to start of first definitive treatment and range of intervals by treating network (chemoradiotherapy)
- 32 Interval from date of diagnosis to start of first definitive treatment and range of intervals by treating trust (surgery)
- 33 Interval from date of diagnosis to start of first definitive treatment and range of intervals by treating trust (radiotherapy)
- 34 Interval from date of diagnosis to start of first definitive treatment and range of intervals by treating trust (chemotherapy)
- 35 Interval from date of diagnosis to start of first definitive treatment and range of intervals by treating trust (chemoradiotherapy)

References

1. Healthcare Quality Improvement Partnership (HQIP) www.hqip.org.uk
2. British Association of Head and Neck Oncologists (BAHNO) www.bahno.org.uk
3. The Health and Social Care Information Centre (HSCIC) www.hscic.gov.uk
4. Oxford Cancer Intelligence Unit (OCIU) www.ociu.nhs.uk
5. Welsh Cancer Intelligence and Surveillance Unit (WCISU) <http://www.wales.nhs.uk/sites3/home.cfm?OrgID=242>
6. Cancer Patient Experience Survey 2011-12 – National Report www.gov.uk/government/publications/second-national-cancer-patient-experience-survey
7. Hospital Episode Statistics (HES) <http://www.hscic.gov.uk/hes>
8. National Radiotherapy Dataset (RTDS) <http://www.canceruk.net/rtservices/rtds/>
9. Cancer Statistics Registrations, England (Series MB1) www.ons.gov.uk/ons/search/index.html?newquery=mb1
10. Cancer Incidence in Wales 2007-2011 Welsh Cancer Intelligence and Surveillance Unit (WCISU) SA 13/01 April 2013 www.wales.nhs.uk/sites3/Documents/242/CancerIncidenceinWales2007_2011.pdf
11. Profile of Head and Neck Cancers in England: Incidence, Mortality and Survival OCIU 2010 http://www.ncin.org.uk/cancer_type_and_topic_specific_work/cancer_type_specific_work/head_and_neck_cancers/head_and_neck_cancer_hub/resources
12. BAHNO Standards 2009 www.bahno.org.uk/docs/BAHNO%20STANDARDS%20DOC09.pdf
13. National Institute for Clinical Excellence (NICE) www.nice.org.uk
14. Guidance on Cancer Services - Improving Outcomes in Head and Neck Cancer – The Manual November 2004 <http://guidance.nice.org.uk/CSGHN/Guidance/pdf/English>
15. Manual for Cancer Services 2008: Head and Neck Measures <https://www.gov.uk/government/publications/manual-for-cancer-services-2008-head-and-neck-measures>
16. National Standards for Head and Neck Cancer Services 2005 www.wales.nhs.uk/sites3/docmetadata.cfm?orgid=362&id=43257
17. National Cancer Peer Review Programme, Head and Neck Clinical Lines of Enquiry - Briefing Paper http://www.cquins.nhs.uk/download.php?d=Head_and_Neck_Briefing_Sheet_CLE.pdf
18. National Cancer Patient Experience Survey Programme – 2010 National Survey Report. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_122516
19. National Cancer Intelligence Network (NCIN) <http://www.ncin.org.uk>
20. Public Health England, South East Knowledge and Intelligence Team www.ociu.nhs.uk
21. Head and Neck Cancer Site Specific Clinical Reference Group (SSCRG) http://www.ncin.org.uk/cancer_type_and_topic_specific_work/cancer_type_specific_work/head_and_neck_cancers/
22. Head and Neck Cancer Hub http://www.ncin.org.uk/cancer_type_and_topic_specific_work/cancer_type_specific_work/head_and_neck_cancers/
23. NHS iView www.hscic.gov.uk/iview
24. New DAHNO System, National Head and Neck Cancer Audit www.hscic.gov.uk/headandneck
25. Systemic Anti-Cancer Therapy (SACT) Dataset (Chemotherapy) http://www.ncin.org.uk/collecting_and_using_data/data_collection/chemotherapy.aspx
26. Everyone counts: Planning for patients 2013 - 2014 <http://www.england.nhs.uk/everyonecounts/>
27. Consensus statement on management in the UK: Transoral laser assisted microsurgical resection of early glottis cancer. Bradley PJ, Mackenzie K, Wight R, Pracy P, Paleri V – On behalf of ENT-UK Head & Neck Group. Clin Otolaryngol. 2009, 34, 367-373 https://entuk.org/docs/prof/position_papers/early_glottic_cancer
28. De-escalation of surgery for early oral cancer – is it oncologically safe? Conor PB, Katre C, Papa E, Brown JS, Shaw RJ, Bekiroglu F, Lowe D, Rogers SN Journal of Oral and Maxillofacial Surgery 51 (2013) 30–36
29. The role of selective neck dissection in patients with early oral squamous cell carcinoma (1-3cm primary size) and no clinical evidence of lymph node metastases in the neck (N0) <http://public.ukcrn.org.uk/Search/StudyDetail.aspx?StudyID=2069>
30. Oral Oncol. 2011 May;47(5):320-4. Epub 2011 Apr 2. A meta-analysis of the randomized controlled trials on elective neck dissection versus therapeutic neck dissection in oral cavity cancers with clinically node-negative neck. Fasunla AJ, Greene BH, Timmesfeld N, Wiegand S, Werner JA, Sesterhenn AM

31. Functional Outcomes after Chemoradiotherapy of Laryngeal and Pharyngeal Cancers. Hutcheson KA and Lewin JS. *Curr Oncol Rep* (2012) 14:158-165
32. Carcinoma of the nasal cavity and paranasal sinuses in Denmark 1995–2004 Thorup C et al, *Acta Oncologica*, 2010; 49: 389–394
33. *Auris Nasus Larynx*. 2011 Dec;38(6):702-9. Epub 2011 Feb 11. A systematic review and Number Needed to Treat analysis to guide the management of the neck in patients with squamous cell carcinoma of the head and neck. Tandon S, Munir N, Roland NJ, Lancaster J, Jackson SR, Jones TM
34. www.evidence.nhs.uk
35. Nabil S, Samman N Incidence and prevention of osteoradionecrosis after dental extraction in irradiated patients: a systematic review. *Int Journal Oral-Maxillofacial Surgery*. 2011 Mar: 40(3) 229-234
36. Chaun-Bin G, Da-Quan M, Kui-Hua Z, Xiao-hong (2007) Relation between nutritional state and postoperative complications in patients with oral and maxillofacial malignancy. *Br J Oral Maxfac Surgery*. 2007; 45, 467–470
37. Improving Outcomes: A Strategy for Cancer. <http://www.nhs.uk/NHSEngland/NSF/Pages/Cancer.aspx>
38. National Awareness and Early Diagnosis Initiative. <http://www.nhs.uk/NHSEngland/NSF/Pages/NAEDI.aspx>
39. Wong RJ (2008) Current status of FDG-PET for head and neck cancer. *J Surg. Oncol* 2008;97:649-65230
40. Laryngeal cancer in the United States; Changes in demographics, patterns of care and survival. *Laryngoscope* vol 116 (Supplement 111) p1-13 2006. Hoffman HT, Porter K, Karnell LH, Cooper JS, Weber RS, Langer CJ, Ang KK, Gay G, Stewart A, Robinson RA
41. Cancer Network Information System Cymru (CaNISC) <http://www.wales.nhs.uk/nwis/page/52601>

The Health and Social Care Information Centre (HSCIC) is working to make information more relevant and accessible to the public, regulators, health and social care professionals and policy makers, leading to improvements in knowledge and efficiency. The HSCIC analyses and distributes data to reduce the burden on frontline staff, releasing more time for direct care.

This work remains the sole and exclusive property of The Health and Social Care Information Centre and may only be reproduced where there is explicit reference to the ownership of The Health and Social Care Information Centre. This work may be re-used by NHS and government organisations without permission. Commercial re-use of this work must be granted by The Health and Social Care Information Centre.

Copyright © 2013, Health and Social Care Information Centre, National Head and Neck Cancer Audit.
All rights reserved.

Need to know more?

T. 0845 300 6016
E. enquiries@hscic.gov.uk
www.hscic.gov.uk

Health and Social Care Information Centre

1 Trevelyan Square
Boar Lane
Leeds
LS1 6AE

Published by the Health and Social Care Information Centre

This publication may be requested in large print or other formats.

For further information:

www.hscic.gov.uk

0845 300 6016

enquiries@hscic.gov.uk

Copyright © 2013 Health and Social Care Information Centre. All rights reserved.

This work remains the sole and exclusive property of the Health and Social Care Information Centre and may only be reproduced where there is explicit reference to the ownership of the Health and Social Care Information Centre.

This work may be re-used by NHS and government organisations without permission.