National Head and Neck Cancer Audit 2013

Ninth Annual Report

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The Healthcare Quality Improvement Partnership (HQIP)
The National Audit of Head and Neck Cancer is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit Programme (NCA). HQIP is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing and National Voices. Its aim is to promote quality improvement, and in particular to increase the impact that clinical audit has on healthcare quality in England and Wales. HQIP holds the contract to manage and develop the NCA Programme, comprising more than 30 clinical audits that cover care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh Government and, with some individual audits, also funded by the Health Department of the Scottish Government, DHSSPS Northern Ireland and the Channel Islands.

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 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 2013

Key findings for England and Wales for the audit period November 2012 to October 2013

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Acknowledgments

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

The project wishes to acknowledge the following who have supported the audit and provided guidance during the data collection period from 1 November 2012 to 31 October 2013 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 and support from Anne Cerchione, James Thatcher and Anna Duggan.

Simon Hodder, chair, Head and Neck Cancer sub-group of the Cancer National Specialist Advisory Group (NSAG), Wales[4] for the contribution from Wales to the audit.

The following groups have supported the audit; the Expert Panel, the Head and Neck Clinical Reference Group (now co-terminus with the National Cancer Intelligence Network (NCIN)[5] Head and Neck Site Specific Clinical Reference Group (SSCRG))[6]. See Appendix 3 to view the Clinical Reference Group membership.

The analysis for this report was undertaken by Arthur Yelland and Claire Meace from the HSCIC and Rebecca Girdler and her team at Public Health England.[7]

The following clinicians contributed to the ninth 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, Anne Hurren and Roganie Govender.

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Foreword

I welcome the changes the audit team have developed in this ninth Annual Report. Setting out the audit question at the outset makes it clear what the objective of the specific element of the report tries to answer. It also helps, in my view, those who read the report to consider how they can contribute to putting the audit findings to best use. There are roles for providers, commissioners and colleges to play.

Once again the radar charts feature and are a real strength, they make it easy to see where deficiencies lie. Overall, the theme, as may be expected in a national audit, is one of variation in practice. There may be very good reasons why such variation exists but if the ideal treatment path is generally accepted, variation in this should be rooted out in the interest of patients. For the "ideal pathway" we have seen improvement but more needs to be done. Commissioners should identify outliers and these providers should be offered support in order to improve the care of their patients.

It was particularly good to see improvements in speech and language therapy access but again this very important aspect of care needs constant focus and improvement in access.

There were further gains in the stage recorded at diagnosis and the factors to enable risk adjustment. When these are optimally recorded, this will make the national audit a very powerful tool for service planning as well as a rich resource for local teams and their trainees to undertake benchmarking activity. With approximately 46,000 patients recorded in the audits thus far much more can be made of this level of data.

This audit has identified where consensus for treatments does not exist with clear variation again across the country. Treatment of the larynx and oropharynx features here and a debate must surely be considered on the relative benefits and risk so that either consensus follows through publication of the outcomes or research is undertaken to establish the best approach to management.

I congratulate the audit team on their hard work on behalf of their constituents and their patients. Steady improvements are welcomed and this represents the hard work of the many teams offering care for this type of cancer. The audit has opened the discussion on where further steps need to be taken and it is now up to those responsible for commissioning and provision of care to work together to make these further gains possible.

Mr Sean Duffy
National Clinical Director for Cancer
NHS England

1.0 Executive Summary

- This is the ninth Annual Report from the National Head and Neck Cancer Audit. It describes a group of cancers that have many common features but important differences, and they are treated by a variety of treatment modalities. Whilst the majority of patients are referred from general practitioners, a smaller cohort are referred by general dental practitioners.
- The diverse nature of the condition increases the importance of a multi-disciplinary team (MDT) approach and this has been considered. Cancer networks also play a vital role in the delivery of good care. Consecutive reports have noted a pattern of similar variation between MDTs and cancer networks. There needs to be concerted effort to spread best practice between the best and less well performing organisations to reduce avoidable variation to a minimum.
- Mortality during the year was 13.4 per cent. There is both variation between anatomic tumour sites but also variation in mortality between cancer networks. Overall head and neck surgery is safe with a 1.4 per cent peri-operative mortality rate and a 3.1 per cent mortality rate within 90 days of surgery being carried out. For those undergoing non-surgical treatments the 30 and 90 day mortalities were 2.6 per cent and 6.9 per cent respectively.
- The Head and Neck Cancer Audit database contains a vast amount of information on more than 45,000 head and neck cancer cases, with more than 6,700 cases of cancer of the glottis, and more than 6,400 cases of oral tongue cancer. This is an important research resource, which should be used to answer questions related to the tumors where evidence pertaining to treatment is lacking.
- We would encourage the cancer networks, providers and commissioners to extract their own performance from the multiple analyses. Each group should develop their own action plan to improve care offered to patients. In addition we have made many recommendations for improvement that are more generic.
- Along the ideal patient pathway, mean scores improved from 2.8 to 3.2 aspects of care. Whilst it is welcome that there has been a rise in the number of patients receiving three or more aspects of the pathway, there remains concern from the Expert Panel that only 6.6 per cent of patients had assurance for all six contributory elements of care.
- Assurance of support to head and neck cancer patients from clinical nurse specialists prior to treatment rose by 9.9 per cent to 64.7 per cent and in the breaking of bad news by 4.5 per cent to 48.3 per cent. However there remains wide variation between cancer networks.
- Pre-treatment speech and swallowing assessment occurred in 26.7 per cent of patients, a rise of 6.9 per cent, but again there was wide variation between cancer networks, with three submitting less than five per cent assurance.
- Universal contribution was again seen in England and Wales, which represents a continued significant effort from clinical teams. 8,358 diagnoses have been included, representing 95.6 per cent of the estimate of cases. A more comparable and timely estimate of cases has been provided by revised cancer registration, which for the first time, shows a national picture in England rather than assimilating individual cancer registry estimates. A substantial increase in the case ascertainment in salivary gland cancer occurred, with an increase from 63.5 per cent in the seventh Annual Report to 82.2 per cent in this report. To date the report has accumulated 745 nasal cavity and sinus tumours
- Data quality has again improved with a rise in the recording of pre-treatment staging to 81.5 per cent. However, there remains variability across English cancer networks in the recording of all three of pre-treatment staging, performance status and co-morbidity. This restricts the ability of the audit to deliver risk adjusted outcomes.
- For the first time an overview of case mix variance with 99.0 per cent confidence levels across five variables has been provided and this will inform the risk adjustment model.
- For the first time an overview of case mix variance with 99.0 per cent confidence levels across five variables has been provided and this will inform the risk adjustment model. This work showed that only one cancer network fell outside the confidence limits for each of; mean age at diagnosis, late stage at diagnosis and poor performance status. Therefore, these factors are likely to have limited discriminatory capability. When looking at co-morbidity and deprivation, cancer networks had either significantly worse or better status in comparison to the English national average, making them more useful comparators.
- For early larynx cancer, there remains variation between radiotherapy and endolaryngeal resection, with one or other treatment predominating in some cancer networks. Cancer networks at the extremes of the distribution are consistently found in this position in successive audits. The audit will now use cumulative information to compare outcomes from the different treatment strategies. For each of the patient pathways commissioners should monitor adherence to network guidelines for treatment. MDTs are encouraged that outcome status is recorded to enable analysis of disease free survival.

- A further rise in the number of oral tongue tumours submitted was seen again this year. Of the 1,251 cases, 804 underwent primary surgical treatment (64.3 per cent). 351 cases underwent a neck dissection, giving a neck dissection rate of 43.7 per cent. On pre-treatment staging of the neck 56.7 per cent of cases were N0 and 28.4 per cent N+ve (14.9 per cent unknown). Of 351 surgical cases that were N0 at presentation, 91 (25.9 per cent) were upstaged on post-surgical pathology review, reflecting difficulties in accurately staging the neck.

- There remains variation between cancer networks in their use of surgical or non-surgical primary treatments in the management of oropharynx cancer. This reflects the lack of clinical consensus on the optimum treatment modality. The audit will look at variation in treatment preference to investigate whether, as expected, different anatomic subsites influence the treatment modality. Professional bodies are encouraged to use the available evidence to progress the development of a consensus view of the most appropriate treatment strategy.

- With advanced larynx cancer, the distribution of treatments is similar to the eighth Annual Report. The use of radiotherapy is slightly greater this year, but chemoradiotherapy, across all advanced laryngeal cancers, is unchanged from that seen in the last report. Within T3 glottic cancer there was a slight reduction in chemoradiotherapy, showing that the trend reported last year of a rise in organ sparing chemoradiotherapy protocols has not been maintained.

- MDT discussion has significantly improved in Wales and now stands at 99.1 per cent of patients confirmed as discussed at a MDT, whilst in England this has reduced by 0.9 per cent to 94.6 per cent. Overall, it is concerning that 426 patients (5.1 per cent) are recorded this year as not discussed at a MDT. Within these cancer networks contributory hospitals again showed variation. Where large numbers of patients are recorded as not having their care discussed at MDT commissioners should investigate the functional arrangements for the delivery of head and neck cancer care.

- The median interval from diagnosis to first treatment has risen this year across all treatments to 34 days, compared to 32 days in the eighth Annual Report. For radiotherapy, over a quarter of patients are waiting beyond 55 days to start treatment. There remains a wide variation both between and within cancer networks in this interval. This suggests that opportunities remain for improvement.

- Survival analysis is now presented as both two year and for the first time three year cumulative crude survival. There is a consistency seen year on year in survival rates and when comparing two and three year survival there is approximately a 6 per cent reduction between two and three years.

- Combining audit data with the Radiotherapy Dataset (RTDS)[8] has added further depth to some treatment analyses. Approximately 600 additional radiotherapy records have been added to the analysis. Using data from the eighth Annual Report cohort the audit has, for the first time, reported on the frequency of use of Intensity Modulated Radiotherapy (IMRT)[9], (Appendix 7) Unfortunately, it has not been possible to link to the Hospital Episode Statistics (HES)[10] dataset this year to enhance surgical records.

2.0 How to get the best out of the National Head and Neck Cancer Audit Annual Report

2.1 Report format

A different layout has been used for the ninth Annual Report: for each audit output a standard list of headings has been used starting with the question the audit is addressing along with the standard the audit is measuring against. This is followed by the results and data source with clinical comment and recommendations. Additional analyses are listed to provide more in depth results to those shown in the main body of the report.

How do I find information by cancer network, provider organisation and multi-disciplinary team (MDT)?

A selection of tables has been included at cancer network level in the main body of the report. Further analysis by MDT, treating and diagnosing organisation can be found under Additional Analyses in each section, along with other cancer network level results. In the electronic version of the report, by clicking on the link the reader is taken to the relevant chart.

Cancer networks reported are those active at the time of the start of the audit period. For the ninth Annual Report, North London (N22) and North East London (N23) merged to form London Cancer (LC); North West London (N21), South East London (N24) and South West London (N25) merged to form London Cancer Alliance (N40).

Reports with confidence intervals

Some charts and reports use confidence intervals to identify where performance or assurance is significantly above or below the national mean. Typically the confidence level is set to 99.0 per cent, which means that there is only a one per cent likelihood that chance accounted for the result.

For example, a cancer network showing 70.0 per cent for a measure may have confidence intervals between 65.0 and 75.0 per cent at the 99.0 per cent confidence level. We can then see whether this range overlaps with the national average (no significant difference) or is wholly above or below the national average (significantly different). This technique accounts for both variation due to sample size limitations and statistical variation, thereby enabling a more robust interpretation of the results.

Denominators for report

Throughout the report, where appropriate, information is reported 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.

In Wales, the data is submitted centrally and annually from the all Wales cancer data information system, Cancer Network Information System Cymru (CaNISC)[11].

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.

Reporting small numbers

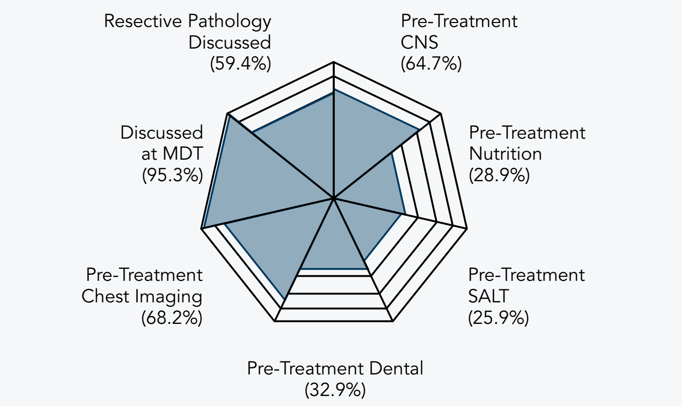
Now that overall case ascertainment is approaching 100.0 per cent, the risk of patient-level identification in the audit outputs has increased. It has therefore been decided to suppress small numbers at trust level to prevent inadvertent patient level disclosure. In cancer networks where all head and neck cancer patients are diagnosed or discussed at a single trust, cancer network level suppression has also been applied.

The cell suppression technique has been used to replace values 1-4 with an asterisk (*). Secondary suppression has also been applied to ensure that the primary suppressions cannot be derived by subtraction. Non-small numbers used for secondary suppression have been selected to minimise disruption to the table as a whole (e.g. by using the smallest non-small number in the row/column or by suppressing unknown [e.g. Not Known] in preference to known [e.g. Yes] outputs where possible). Suppressed numbers are identified throughout the report, including appendices and additional hyperlinked tables, as *

Interpreting radar charts

Radar charts have been used in the report to visually bring together a number of different aspects of patient care. Each pathway aspect is represented by a chart sector divided into 20.0 per cent bands. The greater the shaded area the higher the level of assurance of care provided.

England



How should MDTs respond to the report findings?

Each MDT will receive an individualised key findings report in autumn 2014.

From the key findings, studying the report and comparison with peer, each MDT should develop a Local Action Plan (LAP) that will describe the measures to be undertaken to provide higher levels of assurance that standards of care are being met and improved quality of data submission is made where appropriate. The Local Action Plan should be discussed and adopted at the MDT annual meeting so that it is owned by the whole head and neck team.

The audit team would be interested to receive copies of these individual action plans, which can be forwarded to the audit inbox dahno@hscic.gov.uk

Extending the use of the audit data

The National Head and Neck Cancer Audit database now contains data on more than 45,000 cases of head and neck cancer, more than 6,700 cases of glottic cancer and more than 6,400 cases of oral tongue cancer. These large case cohorts provide opportunities for contributing units to work with the audit in producing scientific papers and applications are encouraged from clinicians and academics with an interest in head and neck cancer research to apply to the audit for data that might support their work.

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

For patients, carers, and commissioners of services it is helpful to assess 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).

A useful way to look at an overview of care delivered is to look at the numbers of patients who individually received key elements of care along the patient pathway. This better represents actual patient experience. These figures will aid patient choice and inform commissioners and can be found in section 4.3.

In interpreting the audit's findings, readers are encouraged to look at both 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 2013[12] to look for evidence of excellence in the provision of care, and also areas where evidence of quality and assurance is lacking.
- Should seek assurance of multi-professional care 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 can be delivered in the future. This should reflect both the overall percentage delivery of an aspect of multi-professional care delivery, as well as how many individual patients received all 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 is maintained for patients.

2.3.2 Cancer 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 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.

3.0 Background to head and neck cancer and comparative audit

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

Head and neck cancers are neoplasms arising principally from the mouth (oral cavity), voice box (larynx), throat / upper gullet (pharynx), salivary glands, nose and sinuses, and primary bone tumours of the jaw. Head and neck cancer accounts for approximately 8,800 new cases diagnosed in England and Wales each year. Over 90 per cent of all malignant head and neck tumours are squamous cell carcinomas (SCC). For the details of anatomical cancer sites covered by the head and neck cancer audit see Appendix 1.

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/ 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. Prognosis is improved in 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), a multi-professional organisation, with facilitation by the HSCIC, published standards for the delivery of head and neck cancer care in 2009[13]. The standards are referred to in this report and are highlighted. 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[14] published guidance on head and neck cancer in England and Wales in November 2004[15]. Supporting measures have been subsequently issued and updated[16], providing recommendations on good practice in MDTs, referral, diagnosis and assessment, treatment services, post-treatment follow-up care, prevention, and palliative care.

In Wales, National Standards for Head and Neck Cancer Services 2005[17] define core aspects of service that should be provided for cancer patients and are highlighted in a grey box.

Head and Neck Clinical Lines of Enquiry (CLEs)[19] introduced in the 2011 – 2012 National Cancer Peer Review process have been modified to now contain six national metrics, all of which are taken from the National Head and Neck Cancer Audit. A list of the six national indicators for 2014 can be found in Appendix 2 and are shown throughout the report in a green box.

The National Cancer Patient Experience Surveys 2010[19], 2011 – 2012[20] and 2012 – 2013[12] act as further sources of information and will be used as a comparator of more diverse patient outcomes in future reports. The latest report contained submissions from 2,437 head and neck cancer patients over a time frame near matching to the eighth annual report cohort. 74.0 per cent of patients saw their GP no more than twice prior to referral, implying a quarter made three or more visits prior to referral.

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

3.4 Improving available information- joint working with the National Cancer Intelligence Network (NCIN) and Public Health England, South East KIT[21] – The head and neck cancer online hub[22]

The NCIN Head and Neck Site Specific Clinical Reference Group (SSCRG) links professional bodies and the audit, but also delivers a separate work programme to gain 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).

SEKIT provides long term cumulative analyses from the National Head and Neck Cancer Audit as well as supporting the annual report audit analysis.

An online information hub on head and neck cancer signposts a variety of information sources.

Publications under the NCIN banner can be found in the resources section of the hub. These include reports on incidence[23], 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 Changes in the DAHNO[24] system for the tenth Annual Report collection year

Changes to the dataset which will be reported in the tenth Annual Report include:

- The use of HPV status and test type in oropharyngeal tumours
- Asking if a patients concerns inventory has been used
- The incorporation of surgeon level outcomes data items into the audit dataset.

3.6 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 3.

3.7 Reporting of surgeon specific outcomes supported by audit data

In December 2012 the NHS Commissioning Board (from 1 April 2013, NHS England)[25] published its planning guidance for 2013 - 2014 - "Everyone counts: Planning for patients 2013 - 2014"[26]. This included a requirement to publish data by individual surgeons from ten national cancer audits .The first report in head and neck surgery by named surgeon was released in September 2013 and published on the NHS Choices website[27].

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

The National Head and Neck Cancer Audit team support the initiative in conjunction with BAHNO by using data submitted from the ninth Annual Report and making it available for surgeons in England to supplement and validate. The second report will be released in autumn 2014.

4.0 Findings

4.1 Introduction

The following analysis was performed by the HSCIC and the SEKIT on data extracted from the DAHNO application database. The data extract period includes patient records with a date of diagnosis between 1 November 2012 and 31 October 2013. Comparative information presented from previous reports uses published information 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

8,358 patient diagnoses have been included in the analysis following data cleaning, representing data on 8,209 patients. This represents 7,817 cases from England (95.6 per cent of the estimated case number) and 541 cases from Wales (95.8 per cent of the estimated case number). Number of cases submitted by first diagnosing provider organisation can be found here and case ascertainment by cancer network can be found here.

The method of case ascertainment from the English cancer registries has altered since the eighth Annual Report. The process of registration in England has been under transition and culminated in the merger of ten separate registries into a single reporting system in 2013. This has resulted in better timeliness and consistency in the collating of registered cancer cases across England for the purposes of case ascertainment. The registry data does not fully match the audit period so an annual trend based on the three most complete calendar years of registrations is supplied as an indicative estimate of the number of head and neck cancer cases registered in England and Wales.

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, oral cavity remains the most frequently reported anatomic site. The previously noted rising incidence of oropharynx cancer is not evident this year from the submissions. However, case ascertainment is reduced at 95.7 per cent this year, which could mask subtle changes.

The level of case ascertainment has steadily risen in salivary gland cancer, increasing from 63.5 per cent in the seventh Annual Report to 82.2 per cent in this report.

147 patients were recorded with more than one tumour in the index period, 145 with two tumours and two patients are recorded as having three tumours.

4.2.1 Is the data quality improving?

This year's data confirms a similar level of data submission in England, but a marked increase in treatment recorded from Wales of five per cent.

For 84.9 per cent of the total patients, there is a record of the actual treatment provided. 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 85 and 93 per cent of patients have a treatment record.

As will be shown later in the report, there has been a further 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?

8,358 cases were presented for analysis, with a date of diagnosis between 1 November 2012 and 31 October 2013. These comprised 2,671 oral cavity cancers, 2,320 oropharyngeal cancers, 1,783 laryngeal cancers, 456 hypopharyngeal cancers, 481 major salivary gland cancers, 377 nasal cavity and sinus cancers, 168 nasopharyngeal cancers and 102 bone tumours (mandible and maxilla).

The number of reported laryngeal cancers has reduced by 117 cases from the eighth Annual Report. This seems disproportionate when compared to the other anatomic sites and the reasons for this are unclear and seem to be outside the known long term trend of a decrease in larynx cancer.

Overall cumulative submissions have now exceeded 45,000 from all nine Annual Reports, a breakdown by subsite can be seen in Appendix 4.

We have now accumulated data on 745 nasal cavity and sinus tumour cases, and increasing numbers in this area will help understand management of this disease. The reported bone tumour cases when analysed again, contain high numbers where the pathology is squamous cell carcinoma, suggesting erosion into the bone rather than tumours arising *de novo* in bone. Accurate assignment of tumour origin would make this more accurate.

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

Tables 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				
	Undifferentiated carcinoma	Small cell carcinoma	Squamous cell carcinoma (NOS)	Keratinising squamous carcinoma	Verrucous carcinoma	Non-keratinising squamous carcinoma	Squamous cell carcinoma variants (see below box)	Adenocarcinoma, not otherwise specified	Adenoid cystic carcinoma	Mucoepidermoid carcinoma	Acinic cell carcinoma	Carcinoma in pleomorphic adenoma (malignant mixed tumour)	Other salivary variants	Other	Blank	Total
Current audit year	48	19	5995	398	35	56	27	131	79	72	49	27	77	108	1237	8358
Previous audit year	68	21	5746	305	18	83	30	109	105	25	59	22	65	98	1518	8272
Difference	-20	-2	249	93	17	-27	-3	22	-26	47	-10	5	12	10	-281	86

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

Histological diagnosis has been submitted for 85.2 per cent of total cases, a 3.6 per cent increase from last year but still below the expected complete submission.

Detail of histological diagnosis can be found in Appendix 5.

Where histological diagnosis is recorded, as expected in larynx, oral cavity, oropharynx and hypopharynx, squamous cell carcinoma not otherwise specified (M80703) predominates, making up 88.8 per cent of cases at these sites.

In salivary gland cancer the increased number of mucoepidermoid carcinomas from 14 last year to 40 cases this year is more in line with expectation.

In nasal cavity and sinus, where histological diagnosis is recorded, squamous cell carcinoma not otherwise specified (NOS) was again the commonest pathology (65.3 per cent); adenocarcinoma 8.6 per cent, olfactory neuroblastoma 3.5 per cent and adenoid cystic carcinoma 4.2 per cent, showing a similar distribution to last year.

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 define an ideal patient pathway containing key aspects of care.

In this report we have analysed the following aspects as representing the ideal patient pathway for all patients. Discussion of resective pathology is only applied to those cases undergoing surgical care and is presented separately:

- 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 multi-disciplinary team (MDT)
- Resective pathology discussed at MDT (Surgical patients only).

In an ideal patient pathway, each patient would receive each of the six or seven aspects of care. We have reported this as a distribution of patients achieving six or fewer aspects of the pathway. This can be found in Appendix 6. For surgical patients the seven or fewer aspects can be found here.

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 20.0 per cent bands.

Figure 4.3a
England

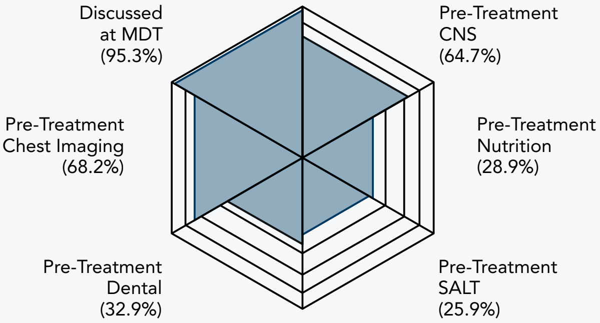


Table 4.3
Percentage of (6 indicator) patients pathway achieved

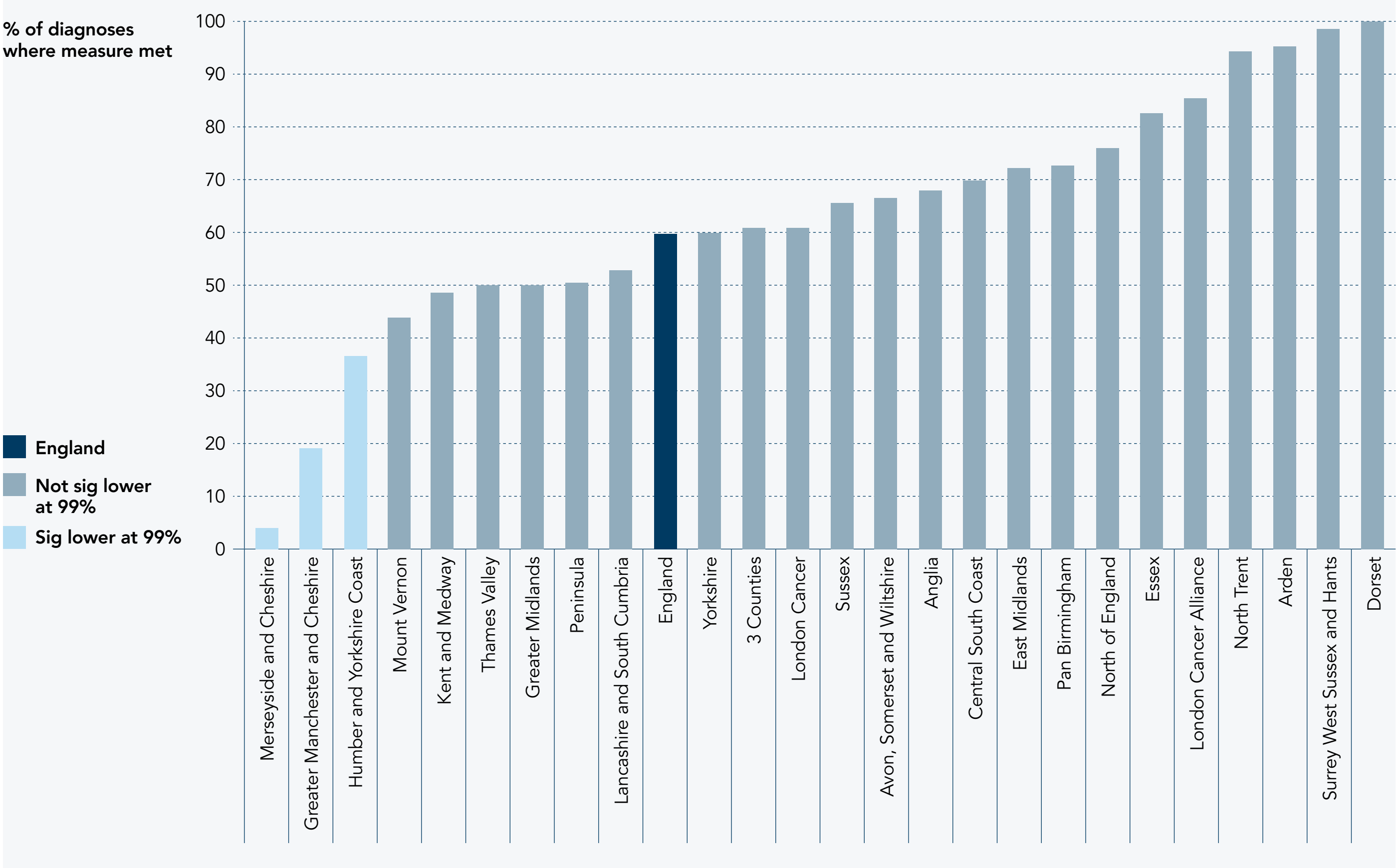
	Current Audit Year		Previous Audit Year*	Difference
	n	%	%	%
0	94	1.6	1.9	-0.4
1	723	12.1	17.3	-5.2
2	1282	21.4	27.9	-6.5
3	1522	25.5	23.1	2.3
4	1141	19.1	14.6	4.5
5	823	13.8	9.8	4.0
6	394	6.6	5.2	1.4
Total	**5979**	**100.0**	**100.0**	

Mean number of (6) key aspects recorded		
Current Audit Year	Previous Audit Year*	Difference
3.16	2.84	0.32

* Chest imaging in eighth Annual Report did not include PET-CT.

In Figure 4.3b below we have shown the percentage of patients achieving between zero and six aspects of the pathway in a network. A higher percentage of patients achieving six aspects, demonstrates a greater compliance with the ideal patient pathway.

Figure 4.3b
Resective Pathology Discussed - Range of attainment by treating cancer network



Cancer network delivery of contributory aspects at 99.0 per cent confidence intervals can be found here.

For those patients undergoing surgery the key additional element is the discussion of resective pathology by the MDT.

Clinical comment:

The mean score has improved from 2.8 to 3.2 aspects of care on the ideal patient pathway. There has also been a rise in the number of patients receiving three or more aspects of the pathway, though there remains concern from the Expert Panel that for only 6.6 per cent of patients assurance was provided that all six contributory elements of care were delivered.

When considering the individual elements, each aspect has shown approximately a six per cent improvement from last year, but the number receiving all elements of the ideal patient pathway has only increased by 1.4 per cent. The Expert Panel believe the gold standard is for all patients to receive all elements of the pathway and MDTs need to critically appraise how they might achieve this in the future.

For patients undergoing surgery there was a rise in the mean number of elements recorded from 3.1 last year to 3.5 in this year's report. The same comment about the number of patients receiving all elements of care on the pathway applies to surgical patients as non-surgical above.

An analysis by first treating English cancer network, comparing the six and seven key elements recorded this year, compared to the eighth Annual Report can be found here. The cancer network with the highest mean number of patients meeting the ideal patient pathway (all patients) was North of England, with a mean number of 4.3, whilst the cancer network achieving the lowest mean number was Kent and Medway at 2.0. With the addition of the seventh aspect for surgical patients, North of England and Essex achieved a mean of 4.6 elements recorded, whilst the lowest mean number was in Merseyside and Cheshire at 2.1.

4.4 Patient pathways

4.4.1 Treatment of early stage larynx cancer

Audit question:

Are patients being provided with choice of radiotherapy or trans oral endoscopic surgery for suitable cancers?

Why is this important?

Early larynx cancer encompasses T1 N0 and T2 N0 squamous carcinoma. ENT-UK[28] 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 cancers[29]. For more details on the different impacts of radiotherapy and microlaryngeal endoscopic resection please refer to earlier annual reports.

Each cancer network is required under Improving Outcomes Guidance[30] to have agreed treatment guidelines, which MDTs are expected to follow.

In the seventh and eighth Annual Reports, variability was seen by cancer network, MDT and care providers 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.

Results:

Table 4.4.1a
Summary

	Total	Treatment recorded		No treatment recorded - Cancer care plan intent		
		Any	None	Curative	Other / Not known	Blank
	n	n	n	%	%	%
Early larynx	**803**	**702**	**101**	**73.3**	**9.9**	**16.8**
Early larynx previous audit year	810	707	103	65.0	11.7	23.3
Early larynx cumulative 2004-audit year	4841	3627	1214	62.7	10.4	26.9
Glottic	**712**	**627**	**85**	**74.1**	**10.6**	**15.3**
Glottic previous audit year	694	610	84	65.5	11.9	22.6
Glottic cumulative 2004-audit year	4225	3191	1034	64.1	10.0	25.9
Supraglottic	**91**	**75**	**16**	**68.8**	**6.3**	**25.0**
Supraglottic previous audit year	116	97	19	63.2	10.5	26.3
Supraglottic cumulative 2004-audit year	616	436	180	54.4	12.8	32.8

Table 4.4.1b
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	3	6	1	3	13	23.1	46.2	7.7	23.1
Anglia	10	19	7	8	44	22.7	43.2	15.9	18.2
Arden	7	*	*	0	14	50.0	*	*	0.0
Avon Somerset and Wiltshire	12	14	9	1	36	33.3	38.9	25	2.8
Central South Coast	13	8	6	4	31	41.9	25.8	19.4	12.9
Dorset	7	*	*	1	17	41.2	*	*	5.9
East Midlands	17	24	9	9	59	28.8	40.7	15.3	15.3
Essex	7	16	2	1	26	26.9	61.5	7.7	3.8
Greater Manchester and Cheshire	2	35	9	4	50	4.0	70.0	18.0	8.0
Greater Midlands	11	10	7	1	29	37.9	34.5	24.1	3.4
Humber and Yorkshire Coast	6	1	1	1	9	66.7	11.1	11.1	11.1
Kent and Medway	1	22	3	1	27	3.7	81.5	11.1	3.7
Lancashire and South Cumbria	6	9	11	4	30	20.0	30.0	36.7	13.3
London Cancer Alliance	7	22	4	9	42	16.7	52.4	9.5	21.4
London Cancer	10	16	6	2	34	29.4	47.1	17.6	5.9
Merseyside and Cheshire	15	19	6	5	45	33.3	42.2	13.3	11.1
Mount Vernon	5	3	1	1	10	50.0	30.0	10.0	10.0
North of England	27	28	8	9	72	37.5	38.9	11.1	12.5
North Trent	16	13	1	8	38	42.1	34.2	2.6	21.1
Pan Birmingham	7	8	1	4	20	35.0	40.0	5.0	20.0
Peninsula	5	14	6	5	30	16.7	46.7	20	16.7
Surrey West Sussex and Hants	2	8	2	4	16	12.5	50.0	12.5	25.0
Sussex	10	1	2	2	15	66.7	6.7	13.3	13.3
Thames Valley	0	9	1	2	12	0.0	75.0	8.3	16.7
Yorkshire	14	18	2	3	37	37.8	48.6	5.4	8.1
England total	**220**	**335**	**109**	**92**	**756**	**29.1**	**44.3**	**14.4**	**12.2**
North Wales	*	9	*	*	18	*	50.0	*	*
South Wales	*	18	*	*	29	*	62.1	*	*
Wales total	**7**	**27**	**4**	**9**	**47**	**14.9**	**57.4**	**8.5**	**19.1**
England and Wales total	**227**	**362**	**113**	**101**	**803**	**28.3**	**45.1**	**14.1**	**12.6**

* (asterisk) in table cell = small number between 1-4 [primary suppression] or another number (including zero) selected for secondary suppression (i.e. to ensure that the primary suppression cannot be derived by subtraction). Associated percentages have also been suppressed to ensure that the suppressed number cannot be derived from the percentage.

Other treatment - chemoradiotherapy, chemotherapy, other surgeries and palliative

Data source: DAHNO

Clinical comment:

803 cases of early larynx cancer were submitted comprising 712 glottic and 91 supraglottic cancers. The cumulative record of early larynx cancers since the inception of the audit now totals 4,841 cases. In this year's cohort 51.6 per cent received radiotherapy as first treatment and 44.9 per cent received surgery. This shows a small rise in the proportion of patients undergoing surgery compared to more dramatic rises evidenced in earlier reports.

A wide variation is again noted between care providers and cancer networks in the proportion of patients recorded as receiving radiotherapy or transoral endoscopic resection. There appears however, established practice that means the cancer networks at the extreme of the distribution are consistently found in this position from year to year.

Given this persistent position it would be useful to look at disease specific outcomes to compare treatment strategies and the audit will endeavour to do this.

In two cancer networks over 60.0 per cent of patients received surgery as first treatment, Humber and Yorkshire Coast and Sussex 66.7 per cent of cases.

In five cancer networks over 60.0 per cent of patients received radiotherapy, Essex (61.5 per cent), Greater Manchester and Cheshire (70.0 per cent), Kent and Medway (81.5 per cent), South Wales (62.1 per cent) and Thames Valley (75.0 per cent).

Recommendations:

MDTs are encouraged to record current status within the audit to allow disease specific survival to be calculated.

Cancer networks and commissioners should monitor adherence to their guidelines for treatment.

4.4.2 Oral cavity – cancer of tongue

Audit question:

Currently there appears to be variation in management of oral tongue cancer, with respect to management of the primary site and neck. There are currently no agreed professional standards written for management of oral tongue cancer in England and Wales. It is the aim of the audit to collect data to inform professional bodies on current practice to develop future management standards.

Why is this important?

The oral tongue is the most common oral subsite for squamous cell carcinoma cancer. Management of the neck is 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)[31] funded trial (SEND[32]) is trying to define criteria to select patients requiring elective neck dissection. Increasing accumulation of cases and their treatment within the audit provides additional opportunities to investigate this topic outside a formal research trial. The audit now contains information on 6,440 cancers of the oral tongue, making it a powerful tool in attempting to understand how best to manage this disease entity.

Tables 4.4.2
Summary

	Total	
Oral cavity	**2671**	**%**
Tongue	1251	46.8
Floor of Mouth	463	17.3
Upper and Lower Gingivae	209	7.8
Cheek Mucosa	208	7.8
Other oral sites	540	20.2

		Total	
All tongue diagnoses		**1251**	**%**
C02.0	Tongue dorsal surface anterior two-thirds	56	4.5
C02.1	Tongue lateral border tip of tongue	512	40.9
C02.2	Tongue ventral inferior surface	140	11.2
C02.3	Anterior two-thirds of tongue part unspecified	48	3.8
C02.4	Lingual tonsil (previously in oropharynx)	16	1.3
C02.8	Tongue overlapping lesion of anterior two-third	53	4.2
C02.9	Tongue unspecified	426	34.1

	Primary radiotherapy	**Adjuvant radiotherapy**
All cohort	56	117
All cohort (after RTDS linked)	86	117

Staging

	Pre-treatment T stage	
All cases with surgery	**804**	**%**
Unknown staging	83	10.3
Pre-treatment T1	362	45.0
Pre-treatment T2	257	32.0
Pre-treatment T3	38	4.7
Pre-treatment T4a	55	6.8
Pre-treatment T4b	1	0.1
Pre-treatment TX	8	1.0

Staging

	Pre-treatment N stage	
All cases with surgery	**804**	**%**
Unknown staging	95	11.8
Pre-treatment N0	551	68.5
Pre-treatment N1	68	8.5
Pre-treatment N2a	17	2.1
Pre-treatment N2b	47	5.8
Pre-treatment N2c	12	1.5
Pre-treatment N3	0	0.0
Pre-treatment NX	14	1.7

	Total	Post Surgery Staging			
		Upstaged		Unrecorded	
	n	n	%	n	%
Pre-treatment T1 with surgery	362	30	8.3	78	21.5
unrecorded = cases with no post surgery staging, excludes 7 with TX					

	Total	Post Surgery Staging			
		Upstaged		Unrecorded	
	n	n	%	n	%
Pre-treatment N0 with surgery	551	90	16.3	130	23.6
unrecorded excluded 28 post surgery staged as NX					

	Total	Post Surgery Staging			
		Upstaged		Unrecorded	
	n	n	%	n	%
Pre-treatment T2-T4 with surgery	351	61	17.4	64	18.2
unrecorded excluded 2 post surgery staged as TX					

	Total	Post Surgery Staging			
		Upstaged		Unrecorded	
	n	n	%	n	%
Pre-treatment N+ with surgery	144	25	17.4	25	17.4
unrecorded excluded 2 post surgery staged as NX					

Surgical procedures: DAHNO

	Total	
	n	%
Resection procedures	**709**	**56.7**
Neck dissection	**359**	**50.6**
Neck dissection Comprehensive neck dissection	107	15.1
Neck dissection Modified neck dissection	15	2.1
Neck dissection Selective neck dissection	237	33.4
Neck dissection Level 1 - 4	237	33.4
Total glossectomy	**9**	**1.3**

	Total	
	n	%
Reconstructive procedures	172	
Radial forearm free flap	91	52.9
NB may overlap as count of all procedures in any position		

Tongue procedures and neck dissections

Total diagnoses	Total diagnoses with tongue procedures	Total diagnoses with neck dissections	Total diagnoses with tongue procedures and neck dissections
1251	655	359	325

Pre-treatment assessment

	Total	SALT pre-treatment		Diabetic pre-treatment	
	n	n	%	n	%
All cohort	1251	505	40.4	589	47.1

Data source: DAHNO, RTDS

Clinical comment:

The number of oral tongue tumours has increased from 1,157 cases in the eighth Annual Report to 1,251 cases this year, making it the dominant subsite in the oral cavity. The most common subsite for oral tongue tumours is the lateral border, which makes up 40.9 per cent of the total. A higher than expected number of cases have been recorded as tongue unspecified 34.1 per cent, which is disappointing.

Of the 1,251 cases, 804 underwent primary surgical treatment (64.3 per cent). 351 cases underwent a neck dissection, giving a neck dissection rate of 43.7 per cent.

34.1 per cent of cases were T1 at presentation, 27.6 per cent T2, 7.4 per cent T3 and T4 a + b 17.3 per cent. On pre-treatment staging of the neck 56.7 per cent of cases were N0 and 28.4 per cent N+ve (14.9 per cent unknown). It is disappointing that a significant number of patients failed to have their post-surgery staging recorded.

Of 551 cases that were N0 at presentation, 90 (16.3 per cent) were upstaged on post-surgical staging. The accuracy of pre-treatment staging appears to have worsened in this cohort of patients, (eighth Annual Report 11.4 per cent upstaged). Of the 144 patients who were staged N+ pre-treatment 25 (17.4 per cent) patients were downstaged to N0 following pathological review (eighth Annual Report 17.4 per cent).

There were 593 early oral tongue tumours, comprising T1 and T2 N0 cases. The most common surgical procedure in this group was excision lesion of tongue (215 cases) or partial glossectomy (213). Of these 428 cases, 205 neck dissections were recorded in 201 patients. With resective pathology 40 cases (6.7 per cent) were upstaged in T category, and 41 (6.9 per cent) downstaged. In N category 80 (13.5 per cent were upstaged, confirming the difficulties in accurate pre-operative staging despite sophisticated imaging. 79 reconstructive procedures are recorded in this group suggesting more extensive resection has taken place.

56 cases were initially reported as having radiotherapy as their first treatment, but with supplementation from RTDS data this rose to 86 cases (6.9 per cent). Similarly an initial 87 cases were reported as having chemoradiotherapy, which rose to 102 cases after linkage to RTDS data (9.4 per cent). The latter 15 cases were submitted to the audit as chemotherapy alone. Previously the audit reported a high level of accuracy in submitted treatment data, but this year the quality has been improved by the use of RTDS data.

Assurance of multi-professional pre-treatment assessment has improved this year. 40.4 per cent of oral tongue cases saw a speech and language therapist before treatment (eighth Annual Report 30.8 per cent) and 47.1 per cent had dietetic input (eighth report 39.8 per cent).

Recommendations:

There remain opportunities to improve the quality of treatment data submitted. The audit will triangulate data with RTDS, HES and the SACT[33] data sets to further refine this as well as comparing subsequent surgeon level submissions with the surgical data.

The improvement of multi-professional submission is an encouraging trend and should be built upon by MDTs to provide a more comprehensive assurance to patients and commissioners.

4.4.3 Oropharynx cancer

Audit question:

Over recent years there has been a switch from surgical to non-surgical management of oropharynx cancer and within non-surgical treatment increasing use of chemoradiotherapy. Ongoing studies are looking at the feasibility of de-escalating chemoradiotherapy regimens. It is the aim of the audit to collect data on current practice to inform professional bodies to help develop management guidelines for the future.

Why is this important?

Interpretation of the current published evidence appears to vary by MDT and network. At present the majority of this information is from non UK studies. The difficulties and cost of setting up multi-centre randomised controlled trials to investigate this clinical area means that information accumulated in an audit such as this can play a useful role in identifying treatment strategies. The audit now contains cumulative information on 11,216 cases of oropharynx cancer, a useful source of comparative information.

Results:

Tables 4.4.3
Summary

	Total cases	Total cases %
Oropharynx diagnoses	**2320**	
Having curative treatment	1811	
... Having Non-surgical curative treatment	978	54.0
... Having Surgical curative treatment	833	46.0
Having palliative treatment	98	
No treatment recorded	411	

Treatment: procedures
Most frequent surgical procedures

	Total cases
Tonsillectomy Unilateral	262
Neck Dissection Radical	110

Treatment: procedures
Specific surgical procedures

	Total cases
Neck dissection	276
Open resective /reconstructive procedures	546

Treatment: cancer networks
Surgery - highest/lowest cancer network summary

	Surgical
Highest Network Name	North of England
Lowest Network Name	Dorset

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

Network Name (MDT)	Surgical	Non surgical	Radiotherapy	Chemoradiotherapy	Chemotherapy
3 Counties	30	23	18	5	0
Anglia	22	72	36	13	23
Arden	7	15	*	11	*
Avon Somerset and Wiltshire	31	39	6	30	3
Central South Coast	18	36	3	16	17
Dorset	6	34	*	*	21
East Midlands	64	49	15	25	9
Essex	12	20	*	13	*
Greater Manchester and Cheshire	70	36	18	13	5
Greater Midlands	18	43	9	26	8
Humber and Yorkshire Coast	25	24	*	16	*
Kent and Medway	26	24	1	14	9
Lancashire and South Cumbria	31	14	5	6	3
London Cancer Alliance	25	71	24	35	12
London Cancer	45	31	6	19	6
Merseyside and Cheshire	61	38	*	26	*
Mount Vernon	13	17	9	6	2
North of England	72	62	19	42	1
North Trent	15	39	*	26	*
Pan Birmingham	15	15	3	11	1
Peninsula	31	44	9	29	6
Surrey West Sussex and Hants	10	51	10	33	8
Sussex	19	11	*	8	*
Thames Valley	45	14	4	6	4
Yorkshire	25	58	24	31	3
England total	**736**	**880**	**244**	**471**	**165**
North Wales	11	13	*	6	*
South Wales	43	42	*	30	*
Wales total	**54**	**55**	**7**	**36**	**12**
England and Wales total	**790**	**935**	**251**	**507**	**177**
- MDT network not recorded	43	43	12	24	7

* (asterisk) in table cell = small number between 1-4 [primary suppression] or another number (including zero) selected for secondary suppression (i.e. to ensure that the primary suppression cannot be derived by subtraction).

Data source: DAHNO, RTDS

Clinical Comment:

Of the 2,320 cases of oropharynx cancer 1,811 had curative treatment intent, with the majority 978 (54.0 per cent) having non-surgical treatment as the first recorded treatment. This shows consistency with the eighth Annual Report, where 53.1 per cent had non-surgical treatment. Within the non-surgical treatment group chemoradiotherapy (531) is twice as frequent as radiotherapy (263) as the first treatment. There remains variation between cancer networks in their use of surgical or non-surgical primary treatments, reflecting the lack of clinical consensus on the optimum treatment modality.

The highest percentage of patients undergoing surgery as first treatment was 76.3 per cent in Thames Valley, and the highest rate of non-surgical treatment was in Dorset at 85.0 per cent.

When comparing the eighth and ninth Annual Reports, there appears to be consistency in treatment preference across cancer networks, despite likely variation in case mix year on year. Whilst the audit has previously suggested that trans oral laser resection as first treatment in oropharynx cancer is increasing, the data this year does not support this. Limitations in Office of Population Censuses and Surveys Classification (OPCS) coding make interpretation of the use of trans oral laser excision difficult as a prefix y code is required to clearly identify therapeutic laser excision of the tonsil.

The audit will look at variation in treatment preference to investigate whether as expected different anatomic subsites influence the treatment modality within the oropharynx.

Recommendations:

Variation in treatment strategies remains evident across cancer networks. Current published evidence does not provide a consensus view that would help define the most appropriate treatment strategy. Professional bodies are encouraged to use the available evidence to progress this agenda.

The audit will continue to work with the NCIN to encourage OPCS to develop a more sensitive coding structure.

4.4.4 Advanced laryngeal cancer

Audit question:

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.

Why is this important?

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

The role of chemoradiotherapy in the management of advanced laryngeal cancer remains unclear with conflicting published studies.

Results:

Tables 4.4.4

Advanced Larynx (T3, T4): Summary all advanced larynx

	Total cases
All cases-glottis and supraglottis	**565**
… T3/T4N0	338
… T3/T4N+	208
… no N category recorded	19

Treatment - all advanced larynx

	Total cases	
	n	%
Active Treatment	**415**	
… with surgical treatment	213	51.3
… with non-surgical treatment	202	48.7
… with radiotherapy	88	21.2
… with chemoradiotherapy	91	21.9
… with chemotherapy	23	5.5
… with no treatment recorded	**150**	
… with palliative treatment	50	

Advanced Larynx - T3 and T4 glottis: Summary

	Total cases
All cases T3	**207**
… T3N0	167
… T3N+	37
… no N category recorded	3
All cases T4	**133**
… T4N0	73
… T4N+	50
… no N category recorded	10

Advanced Larynx - T3 glottis only - Treatment:

	Total cases	
	n	%
Active Treatment	**161**	
… with surgical treatment	63	39.1
… with non-surgical treatment	98	60.9
… with radiotherapy	51	31.7
… with chemoradiotherapy	40	24.8
… with chemotherapy	7	4.3
… with no treatment recorded	**46**	
… with palliative treatment	7	

Advanced Larynx - T4 glottis only - Treatment:

	Total cases	
	n	%
Active Treatment	**92**	
… with surgical treatment	80	87.0
… with non-surgical treatment	12	13.0
… with radiotherapy	5	5.4
… with chemoradiotherapy	6	6.5
… with chemotherapy	1	1.1
… with no treatment recorded	**41**	
… with palliative treatment	12	

Data source: DAHNO, RTDS

Clinical comment:

Across all laryngeal subsites 565 cases had sufficient staging information to be recorded as advanced. 338 were node negative and 208 node positive. Similar numbers underwent surgical treatment (213 cases equating to 51.3 per cent) compared to non-surgical treatment (202 cases equating to 48.7 per cent). The percentage distribution of treatments is similar to the eighth Annual Report, suggesting a consistency in MDT decision making. Within the non-surgical treatment group 88 had radiotherapy (21.2 per cent), 91 chemoradiotherapy, (21.9 per cent) and 23 chemotherapy, (5.5 per cent). The use of radiotherapy is slightly greater, but chemoradiotherapy across all advanced laryngeal cancers is unchanged from the eighth Annual Report.

There is no overall increase in chemoradiotherapy within this cohort. To further assess if this varied between T3 and T4 cases, separate analyses of T3 and T4 glottic cancers has been made.

T3 Glottic cancer:

Of 207 T3 glottic cancer cases, 167 were node negative and 37 were node positive (three cases had no N category recorded). Of the 207 cases, 161 had treatment data, with 63 undergoing surgery (39.1 per cent) and 98 (60.9 per cent) having non-surgical treatment. Once again this distribution matches the eighth Annual Report. In the non-surgical treatment group, 51 patients were treated with radiotherapy, whilst only 40 underwent chemoradiotherapy, with seven recorded as chemotherapy alone. This slight reduction in chemoradiotherapy, shows that the trend reported last year of a rise in organ sparing chemoradiotherapy protocols has not been maintained.

When comparing geographic differences in chemoradiotherapy use in 14 cancer networks that used chemoradiotherapy in this patient cohort, high rates were seen in North Wales with 83.3 per cent compared to 3 Counties with 10.0 per cent undergoing chemoradiotherapy. However, the numbers are small and clinical trials such as ART DECO[34] may have influenced treatment strategies.

In those patients undergoing surgery, 17 cancers originally staged as T3 were upstaged after resective pathology to T4; this confirms the difficulty in accurately staging the primary in advanced laryngeal cancer. A range of different imaging modalities had been used by MDTs, but none were completely accurate. Staging of the neck was more accurate with imaging, with only a small number of cases changing N category with resective pathology.

T4 Glottic cancer:

Of 133 cases of T4 glottic cancer, 73 were N0 and 50 N+ (10 cases had no N category recorded). Of these 133 cases, 92 had active treatment with curative intent, 80 underwent surgery (87.0 per cent) and 12 had non-surgical treatment (13.0 per cent) of which five were radiotherapy, six were chemoradiotherapy and one chemotherapy. 12 patients had palliative treatment.

These results are consistent with the eighth Annual Report. The predominance of surgery is as expected due to compromise of the airway in T4 disease.

Of those patients where post-surgical staging was available, 55 patients were confirmed as T4 but a small number were down staged to T3, T2 and T1 categories. This again reflects difficulties in assessing some cancers with imaging and endoscopy. Within the neck 13 cases were upstaged and five down staged following neck dissection.

Advanced supraglottic cancer:

In the 132 supraglottic cancers, 62 cases (47.0 per cent) were node positive and in the 93 T4 cancers 59 cancers (63.4 per cent) were N+, confirming the high propensity for supraglottic and transglottic tumours to metastasise to the neck.

Recommendations:

There is a lack of information on the longer-term function of the larynx following chemoradiotherapy on both speech and swallowing function. Research is needed to investigate the impact this produces to understand if improved survival occurs and what the quality of life is in survivors.

MDTs are encouraged to ensure that outcome data is recorded to enable analysis of disease free survival data in a cumulative cohort as clinical trials are unlikely to answer these questions.

4.4.5 Nasal cavity and sinus cancer

Audit question:

There are currently no comprehensive sources of information on the management of nasal cavity and sinus cancer.

Why is this important for future audit?

Nasal cavity and sinus tumours are rare with a diverse range of pathologies. By collecting information on pathology and management and where treatment is currently occurring, more comprehensive treatment strategies and guidance can be evolved.

Results:

Tables 4.4.5
Summary

	Total cases	
	n	%
Nasal cavity and sinus	**377**	
Cartilage of nose lateral wall of nose septum of nose	222	58.9
Maxillary Sinus: Antrum (Highmore) (maxillary)	112	29.7
Ethmoid sinus	16	4.2
Frontal sinus	5	1.3
Sphenoid sinus	11	2.9
Overlapping lesion of accessory sinuses	6	1.6
Accessory sinus unspecified	5	1.3

Pre-treatment histology

	Total cases
Histological diagnosis	283
... Squamous cell carcinoma / variants *	205
... Adenocarcinoma, not otherwise specified **	22
... Adenoid cystic carcinoma ***	13
... Olfactory neuroblastoma ****	10
No histological diagnosis	94

* M8070/3, M8071/3, M8072/3, M8074/3, M8075/3
** M8140/3
*** M8200/3
**** M9522/3

Staging

Summary	Total cases	
	n	%
All cohort - (TNM applicable sites)	**350**	
Early	**74**	**21.1**
T1	46	62.2
T2	28	37.8
Late	**158**	**45.1**
T1	6	3.8
T2	8	5.1
T3	23	14.6
T4	121	76.6
Unknown	**118**	**33.7**

Summary	**Total**		**C30.0 - Cartilage of nose, lateral wall of nose, septum of nose**		**C31.0 - Maxillary Sinus: Antrum (Highmore) (maxillary)**		**C31.1 - Ethmoidal sinus**	
	n	%	n	%	n	%	n	%
All cohort - (TNM applicable sites)	350		222		112		16	
N0	202	57.7	126	56.8	65	58.0	11	68.8
N+	49	14.0	29	13.1	19	17.0	1	6.3
NX	10	2.9	8	3.6	2	1.8	0	0.0
Not recorded	89	25.4	59	26.6	26	23.2	4	25.0

Summary	Total cases	
	n	%
All cohort - (TNM applicable sites)	350	
M0	253	72.3
M1	10	2.9
Not recorded	87	24.9

Mortality	
	Total cases %
In year crude mortality	14.9

Data source: DAHNO

All nasal cavity and sinus cancer diagnoses in audit year.

Clinical comment:

All cancer networks contributed some cases of nasal cavity and sinus cancer, with London Cancer Alliance having a greater number of cases (35 cases) than any other. On a percentage of total submission basis Thames Valley and Avon, Somerset and Wiltshire had the highest levels of submission at 7.1 per cent.

Site

Of the 377 cases submitted, 222 arose from the nasal cavity (58.9 per cent) and 112 cases were situated in the maxillary antrum (29.7 per cent). The remainder was from the other accessory sinuses.

Stage

Late stage presentation dominated in this group of tumours with 45.1 per cent being staged as late and 21.1 per cent as early, however 33.7 per cent had unknown stage. 14.0 per cent were node positive and 2.9 per cent had distant metastases at presentation.

Treatment

Surgery remains the mainstay of treatment where treatment is with curative intent. 157 patients underwent surgery with curative intent (41.6 per cent of the patient cohort) and of those 56.1 per cent had adjuvant radiotherapy.

Crude survival

The in-year crude mortality for this cohort was 14.9 per cent, similar to the 15.1 per cent in year rate reported for the eighth Annual Report cohort. In looking further at the eighth Annual Report cohort the overall one year crude mortality rate for nasal cavity and sinus cancers was 26.1 per cent.

Recommendations:

The lack of histological diagnosis and staging information has been commented on by the Expert Panel as an area for focused improvement by MDTs to ensure that data interpretation can be maximised.

Three year cumulative data will be available next year for this subsite with over 1,000 cases accrued and this cohort should help stimulate the development of comprehensive guidance.

It remains difficult to record complex craniofacial resections and the audit will look at ways to assist the submission of this data in the future.

Additional analysis:

Numbers of cases nasal cavity and sinus submitted by diagnostic cancer network.

Number of cases nasal cavity and sinus submitted by MDT provider.

4.5 Recording of risk adjustment factors

Why is this important?

Risk adjustment allows a meaningful comparison of similar cases and allows variation in treatments and outcomes to be assessed. For true risk adjustment to be carried out the audit requires information for each patient treated in a MDT as well as details on stage, performance status co-morbidity as well as accurate treatment data.

Results:

The following chart summates the data quality of risk adjustment factors by cancer network.

Table 4.5

Recording of risk adjustment factors – data quality by cancer network

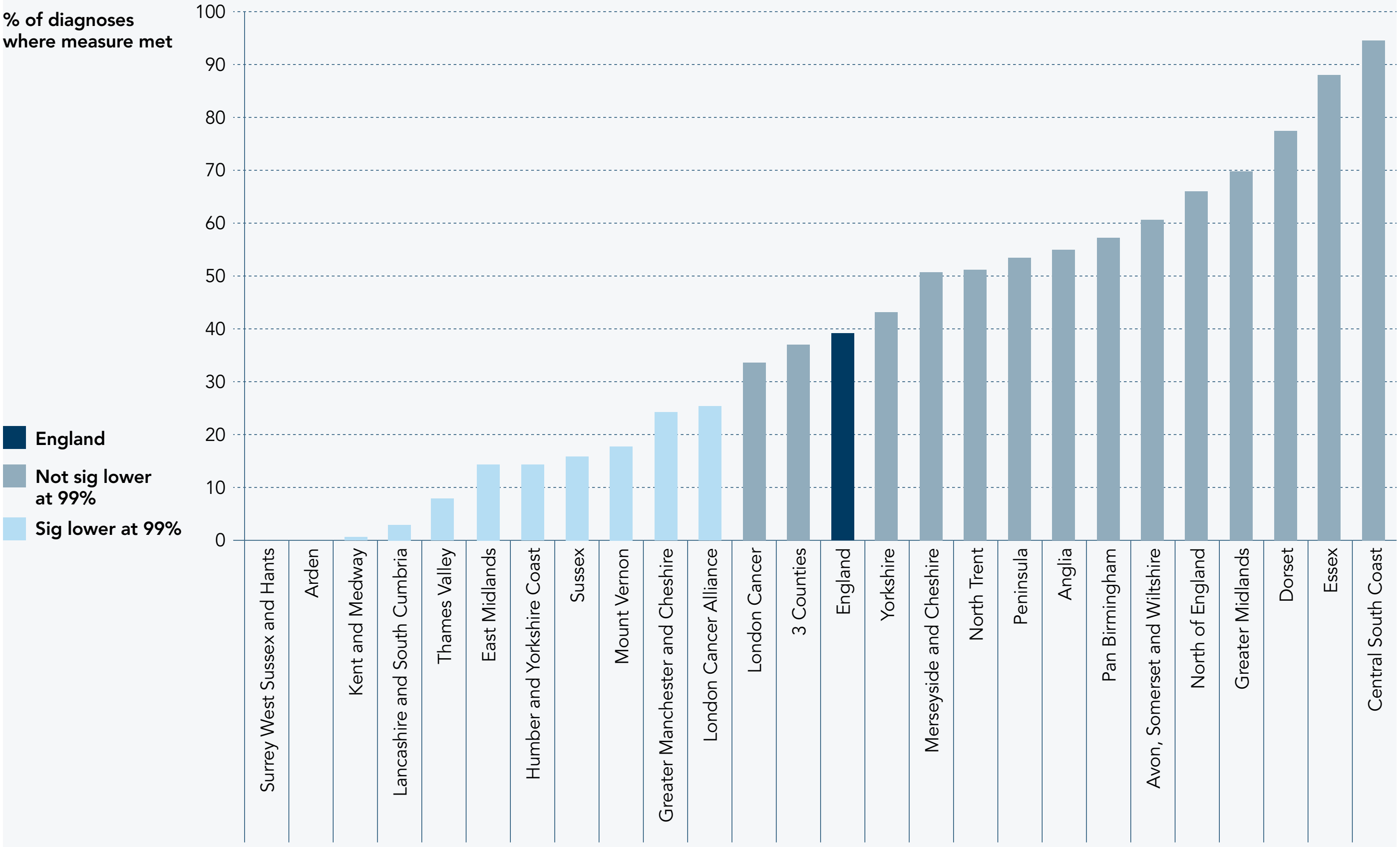
Code	**Diagnosing Network**	**Case ascertainment % of estimate**	**% Pre-treatment T and N staging**	**% Cases with recorded performance status 0-4**	**% Cases with co-morbidity status**	**% PS and pre-treatment staging**	**% All 3 of PS, co-morbidity and pre-treatment staging***	**% Post-surgical staging**
N29	3 Counties	>=80 ●	82.7 ■	60.0 ■	39.3 ▲	55.0	36.8 ▲	81.6 ●
N37	Anglia	>=80 ●	97.9 ●	86.8 ●	52.2 ■	84.3	55.0 ■	55.8 ■
N12	Arden	<80 ▲	100.0 ●	97.9 ●	1.2 ▲	96.8	0.0 ▲	97.5 ●
N28	Avon, Somerset and Wiltshire	>=80 ●	82.4 ■	84.5 ●	57.1 ■	72.4	60.5 ■	52.1 ■
N31	Central South Coast	>=80 ●	94.2 ●	90.6 ●	92.7 ●	86.9	94.5 ●	75.0 ●
N27	Dorset	>=80 ●	100.0 ●	95.5 ●	71.3 ■	95.5	77.5 ●	89.3 ●
N39	East Midlands	>=80 ●	74.7 ▲	32.9 ▲	16.1 ▲	27.5	14.1 ▲	95.0 ●
N38	Essex	>=80 ●	95.7 ●	92.1 ●	87.9 ●	86.2	88.0 ●	82.4 ●
N02	Greater Manchester and Cheshire	>=80 ●	68.0 ▲	67.9 ■	29.0 ▲	49.4	23.9 ▲	66.7 ■
N35	Greater Midlands	>=80 ●	87.9 ●	73.5 ■	64.6 ■	72.8	69.8 ■	60.5 ■
N07	Humber and Yorkshire Coast	<80 ▲	62.8 ▲	44.5 ▲	22.5 ▲	29.0	14.2 ▲	52.5 ■
N34	Kent and Medway	>=80 ●	80.0 ■	76.5 ●	0.4 ▲	62.5	0.5 ▲	84.8 ●
N01	Lancashire and South Cumbria	>=80 ●	67.1 ▲	47.9 ▲	2.8 ▲	42.2	2.7 ▲	63.5 ■
N40	London Cancer Alliance	>=80 ●	83.4 ■	54.3 ■	29.2 ▲	49.7	25.1 ▲	76.3 ●
LC	London Cancer	>=80 ●	90.2 ●	33.3 ▲	33.7 ▲	31.4	33.5 ▲	57.5 ■
N03	Merseyside and Cheshire	>=80 ●	84.1 ■	97.3 ●	55.8 ■	83.1	50.6 ■	48.9 ▲
N20	Mount Vernon	>=80 ●	68.0 ▲	41.2 ▲	18.7 ▲	31.0	17.3 ▲	50.9 ■
N36	North of England	>=80 ●	96.9 ●	70.4 ■	75.6 ●	66.7	65.8 ■	99.2 ●
N08	North Trent	>=80 ●	97.8 ●	96.8 ●	47.8 ▲	94.6	51.2 ■	92.9 ●
N11	Pan Birmingham	<80 ▲	89.1 ●	69.7 ■	60.6 ■	62.1	57.3 ■	93.0 ●
N26	Peninsula	>=80 ●	81.8 ■	68.3 ■	55.5 ■	59.5	53.5 ■	69.8 ■
N32	Surrey West Sussex and Hants	>=80 ●	65.8 ▲	1.4 ▲	0.5 ▲	1.0	0.0 ▲	43.1 ▲
N33	Sussex	<80 ▲	82.5 ■	67.4 ■	17.4 ▲	57.3	15.8 ▲	27.1 ▲
N30	Thames Valley	>=80 ●	29.2 ▲	16.2 ▲	22.2 ▲	12.1	7.6 ▲	70.0 ■
N06	Yorkshire	>=80 ●	68.3 ▲	67.4 ■	44.4 ▲	41.9	42.9 ▲	84.4 ●
	England total	**95.6** ●	**80.8** ■	**64.2** ■	**41.0** ▲	**56.3**	**38.9** ▲	**72.3** ■

Code	**Network**	**Case ascertainment % of estimate**	**% Pre-treatment T and N staging**	**% Cases with recorded performance status 0-4**	**% Cases with co-morbidity status**	**% PS and pre-treatment staging**	**% All 3 of PS, co-morbidity and pre-treatment staging***	**% Post-surgical staging**
NWW	North Wales	>=80 ●	89.7 ●	74.6 ■		71.4		68.4 ■
SWCN	South Wales	>=80 ●	92.0 ●	77.6 ●		69.3		87.9 ●
	Wales total	**96.1** ●	**91.5** ●	**76.9** ●		**69.8**		**84.4** ●

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

* The combined measure of performance status, staging and co-morbidity values has been adjusted to take account of the fact that not all patients will have reached a point in the pathway where a care plan has been determined. The denominator is therefore 92 per cent of the patient cohort.

Figure 4.5
Percentage of all: performance status, co-morbidity and pre-treatment staging (adjusted)



The histogram above graphically displays the variation in recording the combined measure of performance status, staging and co-morbidity. 12 cancer networks have a higher level of recording than the England mean of 38.9 per cent, while 13 have a lower attainment, with 11 networks recording attainment significantly below the national average.

Data source: DAHNO

Co-morbidity values were not submitted in sufficient quantity by the Welsh CaNISC system and thus the data reflects English values only.

Clinical comment:

Variability remains an issue across English cancer networks, with some achieving high levels of recording and others struggling to record these factors. Where cancer networks are achieving 80 per cent or higher recording of these values meaningful risk adjustment can be made. Two cancer networks: Central South Coast and Essex stand out in achieving these levels of risk adjustment factors.

The Welsh data shows high levels of recording of stage and performance status.

Recommendations:

MDTs need to focus on the methodologies required to achieve high levels of risk adjustment recording with co-morbidity data once again being the least well recorded item.

4.6 Are factors relevant to risk adjustment being recorded?

4.6.1 Distribution of stage

Why is this important?

Staging is a defining parameter, which facilitates a description of disease extent in a uniform manner, to allow valid comparison between cases. Teams are encouraged to achieve high levels of data quality with regard to staging in order to facilitate risk adjustment.

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 100.0 per cent of cases staged, to allow valid comparisons to be made. (BAHNO Standard)

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

Results:

Tables 4.6.1
Summary

		Cohort cases	England cases	Wales cases
		%	%	%
T and N recorded	Current Audit Year	81.5	80.8	91.5
	Previous Audit Year	79.9	78.9	92.6
	Difference	1.7	1.9	-1.2

Submitted diagnoses by year where T and N recorded*

	2004-05**	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 ***	2012-13 ***
Diagnoses submitted	1042	1443	2035	4038	5597	6458	6879	8147	8229
Cases with T and N staging recorded	673	776	1550	2936	3942	5079	5583	6506	6708
% staging	64.8	53.8	76.2	72.7	70.4	79.0	81.2	79.9	81.5

* Historic figures taken from respective annual reports
** England only
*** Diagnoses where TNM is applicable

Pre-treatment staging: cancer networks
Cancer network performance

	Networks
85+% T and N recorded	12 of 27
<70% T and N recorded	7 of 27

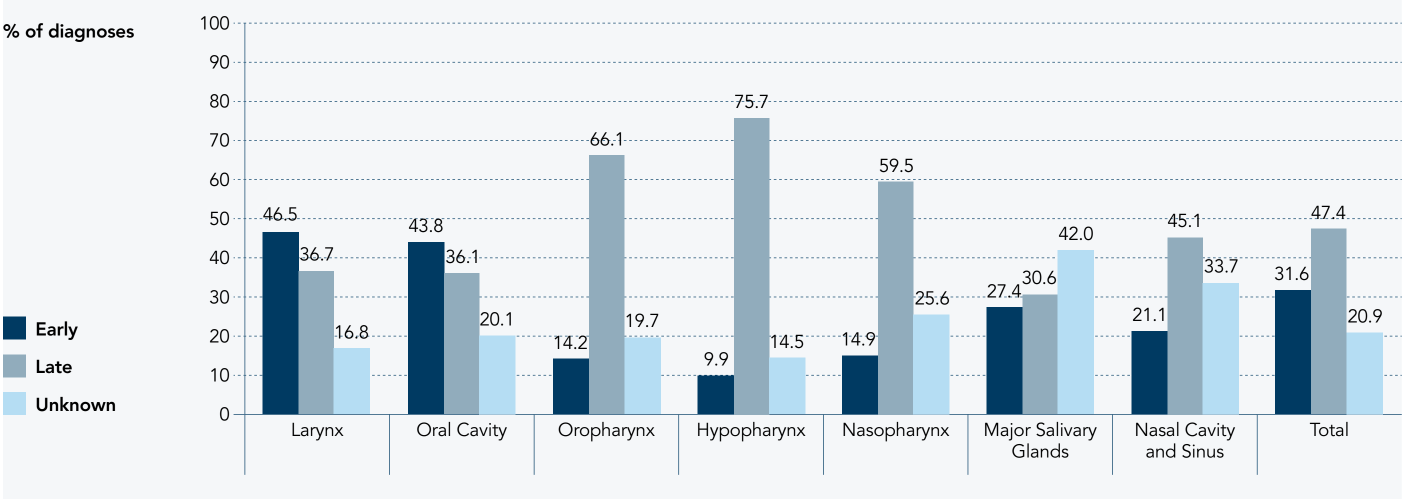
Pre-treatment staging: cancer networks
Highest/Lowest cancer network recording

	Highest Network T and N	Lowest Network T and N
	%	%
All networks	100.0	29.2
England networks	100.0	29.2
Wales networks	92.0	89.7

Pre-treatment Staging: Early / Late

Site	Early	Late	Unknown
	%	%	%
Larynx (n = 1783)	46.5	36.7	16.8
Oral Cavity (n = 2671)	43.8	36.1	20.1
Oropharynx (n = 2320)	14.2	66.1	19.7
Hypopharynx (n = 456)	9.9	75.7	14.5
Nasopharynx (n = 168)	14.9	59.5	25.6
Major Salivary Glands (n = 481)	27.4	30.6	42.0
Nasal Cavity and Sinus (n = 350)	21.1	45.1	33.7
Total (n = 8229)	**31.6**	**47.4**	**20.9**

Figure 4.6.1a
Final pre-treatment stage by site



More detailed information by subsite for cases that are N+ can be found here. Information on final pre-treatment M category can be found here. This acts as a useful source of information to support treatment planning and education.

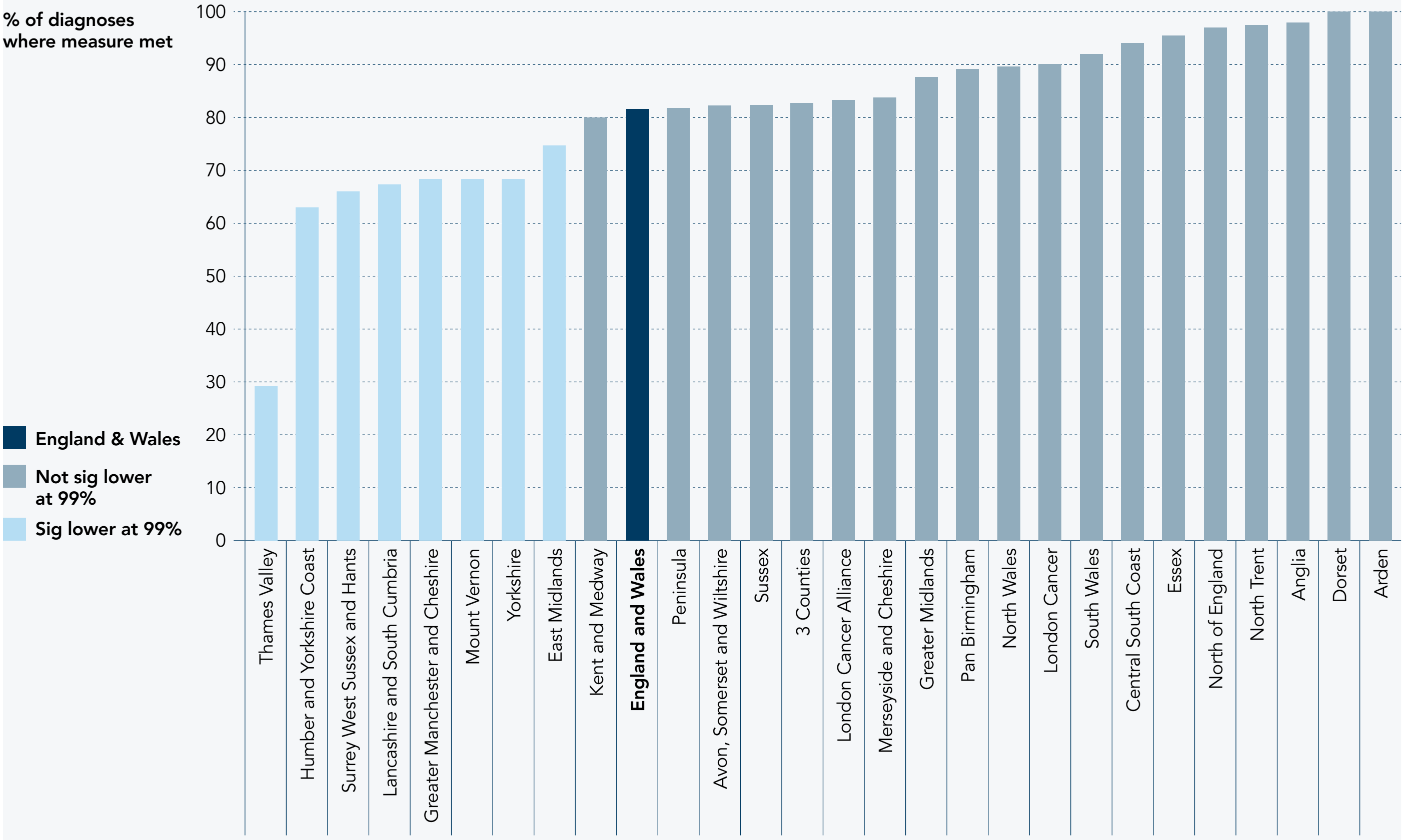
Data source: DAHNO

All diagnoses for sites applicable for TNM staging.

Clinical comment:

The recording of stage has reached the highest level since the inception of the audit. However, variation remains between cancer networks and MDTs. Arden and Dorset cancer networks achieved 100.0 per cent recording of stage, with a further ten attaining over 85.0 per cent. Seven achieved less than 70.0 per cent; Greater Manchester and Cheshire, Humber and Yorkshire Coast, Lancashire and South Cumbria, Mount Vernon, Surrey, Sussex and Hants, Thames Valley and Yorkshire. The histogram below displays the different levels of attainment with confidence limits at 99.0 per cent.

Figure 4.6.1b
Cancer network variation in final pre-treatment T and N staging completeness



From the staging submitted it has been possible to categorise 79.1 per cent of submissions into early or late stage disease. It can be seen that, as expected, late stage disease predominates across the pharyngeal sites.

Recommendations:

Focused effort is required in cancer networks and their contributing MDTs, who have consistently failed in adequately recording stage.

Additional analyses:

Number of new primaries with final pre-treatment T, N and M staging recorded by cancer network.

Number of new primaries with final pre-treatment T, N and M staging recorded by MDT provider.

4.6.2 Distribution of performance status at point of treatment decision

Why is this important?

Performance status has been proposed as a useful indicator of a patients overall fitness and thus plays an important role in allowing discriminatory risk adjustment.

Results:

Recording of performance status has been maintained at similar levels to last year at 65.5 per cent in England and Wales, with a value recorded between zero and four.

Table 4.6.2
Distribution of performance status at point of treatment decision

Performance Status	Total (9AR)	
	n	%
0. Able to carry out all normal activity without restriction	2719	46.3
1. Restricted in physically strenuous activity, but able to walk and do light work	1356	23.1
2. Able to walk and capable of all self-care, but unable to carry out any work. Up and about more than 50.0 per cent of waking hours	618	10.5
3. Capable of only limited self-care, confined to bed or chair more than 50.0 per cent of waking hours	305	5.2
4. Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair	54	0.9
9. Not recorded	817	13.9
Recorded Total	**5869**	**100.0**
Blank	1842	
Total	**7711**	

Data source: DAHNO

Clinical comment:

There remains significant variation in the recording of performance status by cancer networks and MDTs, with the highest cancer network recording 97.9 per cent of cases (Arden), compared to the worst 1.4 per cent (Surrey, West Sussex and Hants). The absence of risk adjustment factors continues to limit the ability of the audit to make adjusted comparisons between teams.

The figures for the first nine Annual Reports (21,738 patients with values from zero to four) suggest that the majority of patients (81.0 per cent) have a normal performance status (PS 0-1). The apparent lack of sensitivity of performance status to separate by category different patient groups brings into question whether performance status will provide adequate discrimination for risk adjustment.

Recommendations:

To facilitate risk adjustment improved completeness of performance status is required. The MDT discussion remains central to the recording of this information. We would encourage each MDT to review their own results and appraise their methods for ensuring accurate recording of risk adjustment factors.

Additional analyses:

Number of cases recorded with performance status by MDT provider.

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

Why is this important?

Co-morbidity has been shown to have an important impact in assessing risk and to be an important predictor of outcome. The ACE 27 proforma can be found here.

Results:

Tables 4.6.3

Summary: Care plan

	Total cases - Current audit year		Total cases - Previous audit year		Difference	
	n	%	n	%	n	%
Care plan recorded	6171		6203		-32	
… and co-morbidity recorded *	2747	44.5	2361	38.1	386	6.4

* Co-morbidity 0-3

Co-morbidity recording

Highest performing cancer network

	Total cases	Co-morbidity recorded	
	n	n	%
Central South Coast	260	241	92.7

	Network Count
50+% co-morbidities recorded	10 of 25

Co-morbidity recording: Cumulative

	Total cases	Co-morbidity recorded *	Grade 0	Grade 1	Grade 2	Grade 3	Grade 0-1	Grade 2-3
	n	n	n	n	n	n	%	%
2004-05 - Audit year	40040	14286	6361	4052	2457	1416	72.9	27.1

* Co-morbidity 0-3, including tumours without Care Plan Agreed Date

Summary of co-morbidity index; Percentage of recorded values

Co-morbidity index	Current audit year *		Previous audit year *		Difference	
	n	%	n	%	n	%
Grade 0 - No co-morbidity	1187	40.2	957	38.2	230	2.0
Grade 1 - Mild decompensation	841	28.5	798	31.8	43	-3.4
Grade 2 - Moderate decompensation	523	17.7	443	17.7	80	0.0
Grade 3 - Severe decompensation	405	13.7	309	12.3	96	1.4
Total	**2956**	**100.0**	**2507**	**100.0**	**449**	**0.0**

* Including tumours without Care Plan Agreed Date

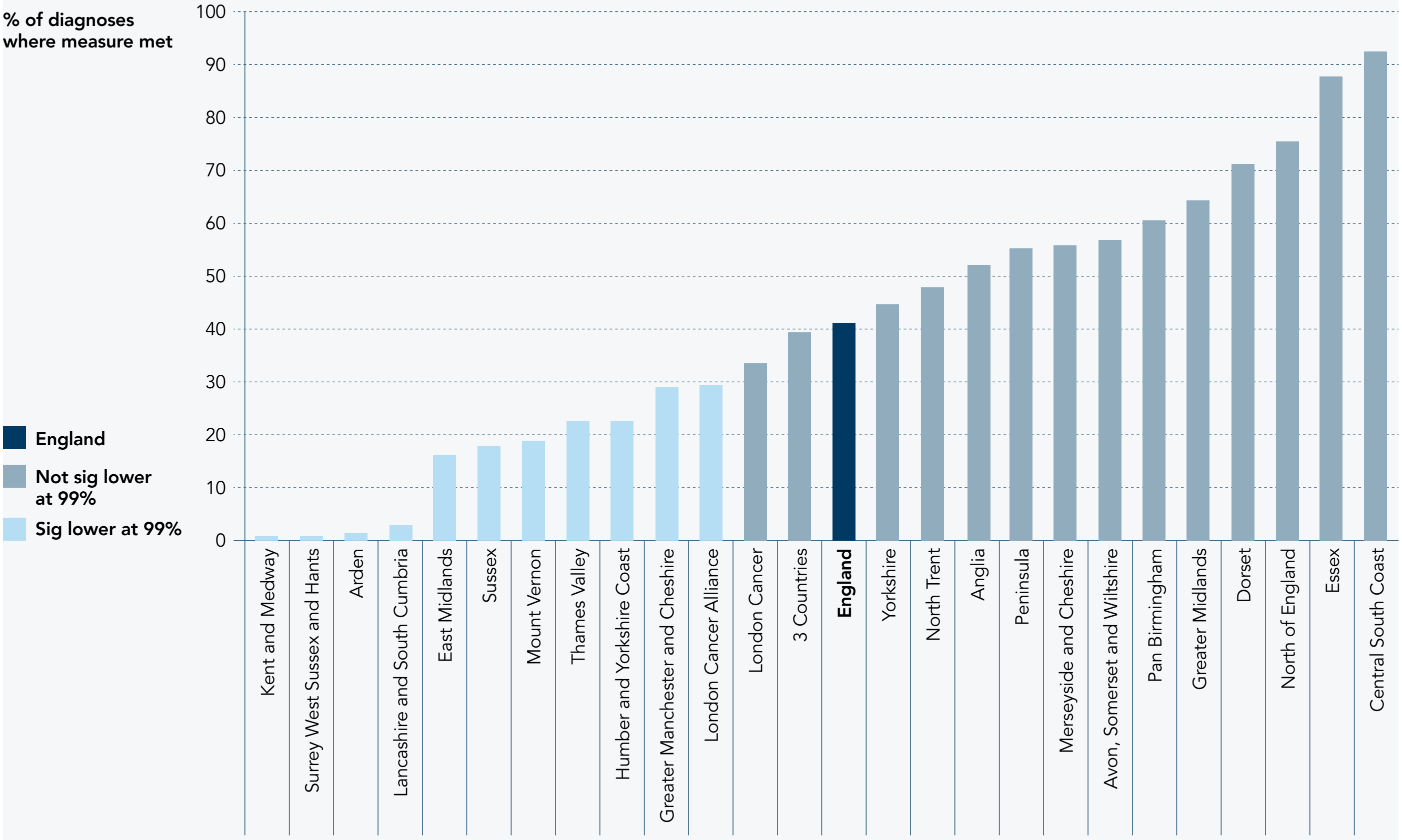
Data source: DAHNO

Co-morbidity values from Wales have not been submitted in sufficient quantity and thus the data reflects English values only.

Clinical comment:

Whilst the recording of co-morbidity has increased by 6.4 per cent, there remains wide variation between cancer networks in collection of this information. Ten cancer networks out of 25 recorded over 50.0 per cent of their cases, with the highest being Central South Coast at 92.7 per cent. A number of MDTs have a zero return, suggesting that they currently do not have processes in place to collect this important information. The failure to capture this information could potentially place a MDT at risk of appearing to have adverse outcomes due to an inability to risk adjust.

Figure 4.6.3
Cancer network variation in co-morbidity completeness



The audit has now accumulated more than 14,000 patients with co-morbidity data. This consistently shows that over 70.0 per cent of patients have mild or no co-morbidity. This leaves around a third of patients with significant co-morbidity (moderate and severe), which is known to impact adversely on outcome. The identification of patients with significant co-morbidity is important to ensure appropriate risk stratification.

Recommendations:

To facilitate risk adjustment improved completeness of co-morbidity is required. The MDT discussion remains central to the recording of this information. We would encourage each MDT to review their own results and appraise their methods for ensuring accurate recording of risk adjustment factors.

Additional analyses:

Co-morbidity by level of decompensation for summated site groups by MDT provider.

Distribution at point of treatment decision.

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

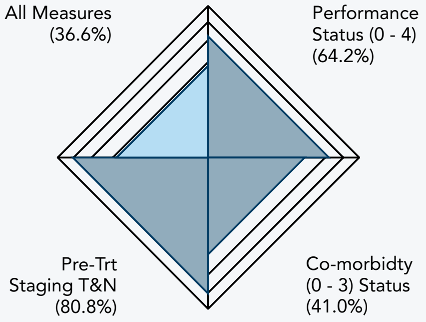
Why is this important?

The core factors of staging, performance status and co-morbidity are key to the audit's aim of producing risk adjusted outcome. All three values are required to optimise this.

Results:

The diagram below provides an integrated assessment of the recording of these three values for all English cancer networks as well as the number of cases where all three measures were evident.

Figure 4.6.4
England Total



Cohort	
All England diagnoses in audit year	Performance status (0-4)
All England diagnoses in audit year, sites applicable for TNM	Pre-treatment staging T and N
All England diagnoses in audit year, primary sites Larynx, Oral Cavity, Oropharynx, Hypopharynx, Major Salivary Glands	Co-morbidity status (0-3)
All England diagnoses in audit year, primary sites Larynx, Oral Cavity, Oropharynx, Hypopharynx, Major Salivary Glands, sites applicable for TNM	All measures

4.6.5 Case mix variation between cancer networks, MDTs and peers

Why is this important?

A number of case mix variables have been proposed as having significance when comparing different networks and MDTs. The audit is now able to present a comparative analysis of these variables with 99.0 per cent confidence intervals.

Results:

Table 4.6.5

Case mix Overview at 99% Confidence - diagnosing cancer network

Cases included: English larynx/OC/*pharynx/MSG diagnoses in audit year

Code	**Diagnosing Network**	**Co-morbidity Index 2-3**	**Performance Status 2-4**	**Age at Diagnosis Mean**	**Deprivation Quintile 1 (most-deprived)**	**Late Stage at Diagnosis**
		%	**%**	**nn.n**	**%**	**%**
N29	3 Counties	6.8 ●	8.0 ●	65.7	12.5 ●	66.7
N37	Anglia	33.7	15.9	65.0	7.3 ●	57.6
N12	Arden	*0.0*	21.8	62.0	27.2	65.9
N28	Avon, Somerset and Wiltshire	36.6	17.2	63.9	9.6 ●	56.8
N31	Central South Coast	23.0	16.2	67.0 ▲	10.2 ●	62.5
N27	Dorset	35.9	13.8	65.7	12.5 ●	58.9
N39	East Midlands	20.0	17.1	63.5	17.5	57.6
N38	Essex	35.2	25.6	65.3	18.2	56.0
N02	Greater Manchester and Cheshire	30.5	21.9	63.2	37.2 ▲	49.0 ●
N35	Greater Midlands	36.7	26.2	64.4	30.7	51.9
N07	Humber and Yorkshire Coast	8.8 ●	10.9	64.8	34.5 ▲	62.9
N34	Kent and Medway	*0.0*	13.4	62.3	17.9	54.5
N01	Lancashire and South Cumbria	*12.5*	23.4	65.3	33.8 ▲	52.3
N40	London Cancer Alliance	10.3 ●	14.2	63.9	19.1	64.2
LC	London Cancer	26.5	25.6	63.3	34.7 ▲	58.7
N03	Merseyside and Cheshire	48.4 ▲	24.7	64.4	48.1 ▲	53.5
N20	Mount Vernon	23.5	21.8	63.0	8.2 ●	63.7
N36	North of England	49.1 ▲	13.1	63.3	35.8 ▲	59.2
N08	North Trent	32.2	24.1	64.8	29.1	64.7
N11	Pan Birmingham	32.0	30.4	64.8	44.3 ▲	67.4
N26	Peninsula	14.8 ●	16.8	64.8	14.2 ●	64.9
N32	Surrey West Sussex and Hants	*100.0*	*0.0*	64.6	1.5 ●	61.4
N33	Sussex	41.7	26.3	67.2	14.4	58.2
N30	Thames Valley	13.6 ●	17.8	63.9	7.0 ●	53.4
N06	Yorkshire	24.4	21.0	63.5	28.0	59.5
	England total	**31.1**	**19.3**	**64.2**	**23.5**	**58.8**

Key
● Green - significantly lower than national average at 99% confidence
▲ Red - significantly higher than national average at 99% confidence
Number - fewer than 20 cases recorded in the denominator.

Clinical comment:

When comparing mean age at diagnosis, only one cancer network was outside the 99.0 per cent confidence interval, with a higher mean age at diagnosis – Central South Coast, 67.0 years against a mean of 64.2 years.

For percentage of late stage at diagnosis only one cancer network was outside the 99.0 per cent confidence interval, with a lower ratio of high to low staging – Greater Manchester and Cheshire, 49.0 per cent against a mean of 58.8 per cent.

Performance status, when considering the more severely impaired categories (2-4) showed only a single cancer network outside the 99.0 per cent confidence interval, with a lower percentage of cases with severe impairment 3 Counties, 8.0 per cent against a mean of 19.3 per cent. Surrey, West Sussex and Hants had too poor a return to be included in this analysis.

The greatest variability between cancer networks falling outside either the upper or lower interval was for co-morbidity and deprivation. Co-morbidity compared those with the most severe decompensation (categories 2 moderate and 3 severe). The percentage of cases having this level of decompensation varied from the highest – North of England 49.1 per cent of cases to the lowest – 3 Counties with only 6.8 per cent of cases in this category. The all England average was 31.1 per cent. Whilst we have previously commented that we have not obtained full submission for co-morbidity, there does appear to be a significant difference based on geography.

In looking at deprivation when considering the lowest deprivation quintile 1 (most deprived), there was again considerable geographic variation, with the highest percentage of cases in the most deprived category occurring in Merseyside and Cheshire Cancer Network – 48.1 per cent, compared to Surrey, West Sussex and Hants with 1.5 per cent against an England average of 23.5 per cent. Nine cancer networks were significantly lower than the national average at 99.0 per cent confidence whilst seven were significantly higher.

Map 4.6.5

Deprivation

■ Significantly higher than national percentage of deprivation (first quintile) : (99.0% confidence)

▨ Fewer than 20 cases recorded with valid England postcodes

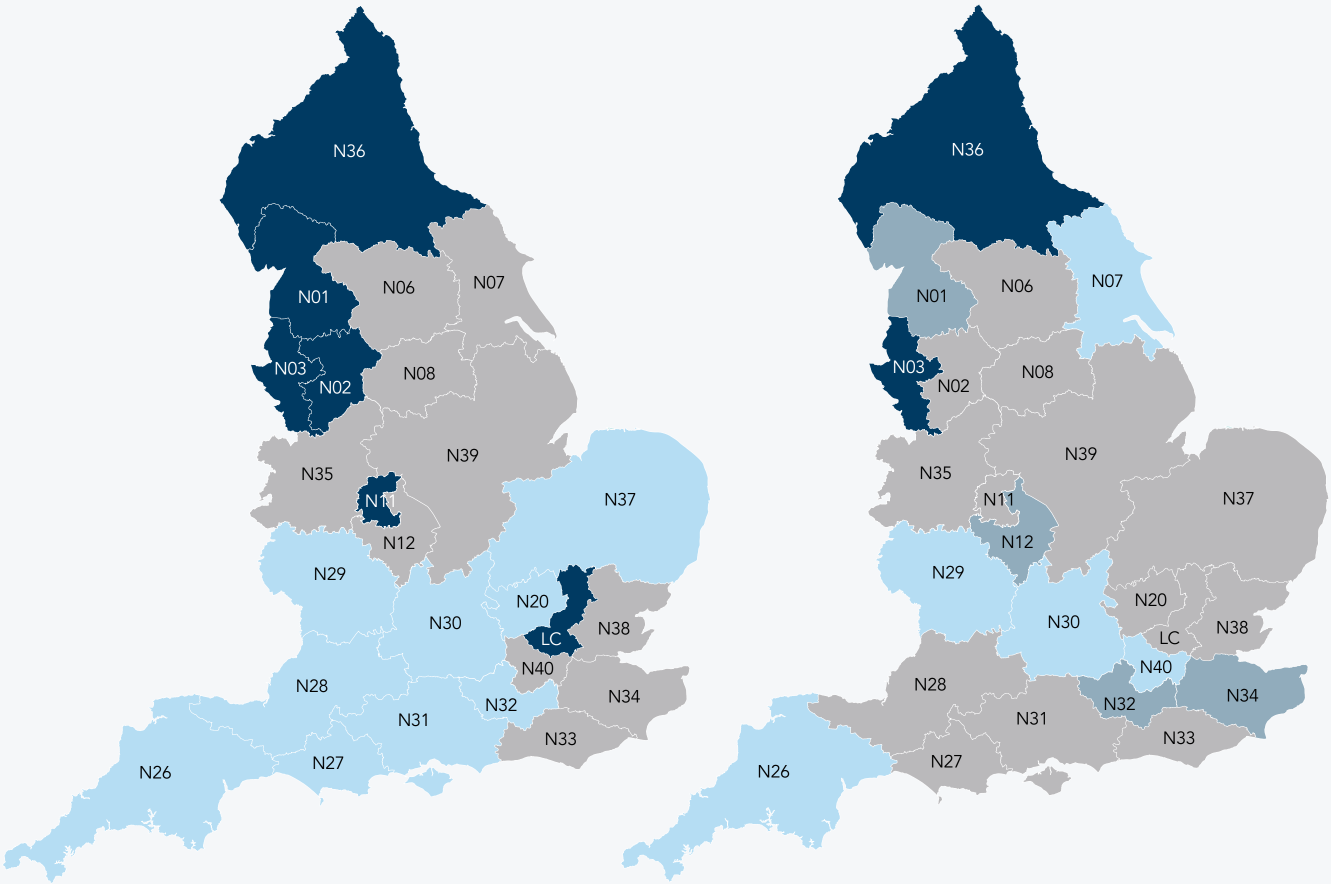
□ Significantly lower than national percentage of deprivation (first quintile) : (90.0% confidence)

Co-morbidity

■ Significantly higher than national percentage of co-morbidity (2-3) : (99.0% confidence)

▨ Fewer than 20 cases recorded with co-morbility (0-3)

□ Significantly lower than national percentage of co-morbidity (2-3) : (99.0% confidence)



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Recommendation:

The information currently available suggests that of the case mix variables proposed, co-morbidity and deprivation are likely to be the most sensitive predictors and MDTs are encouraged to develop strategies to ensure the robust collection of co-morbidity data, as deprivation is calculated independently from post code at diagnosis.

Additional analyses:

Case mix Overview at 99.0 per cent Confidence by provider MDT.

Case mix adjustment measures recorded by English diagnosis cancer network.

4.6.5.1 Post surgical staging

Why is this important?

MDTs should discuss pathological staging in all cases that have undergone surgery. This is both important to accurately define actual stage as well as indicating the need for adjuvant treatment. 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. All MDTs are strongly encouraged to collect these data set items to facilitate future risk adjustment.

Results:

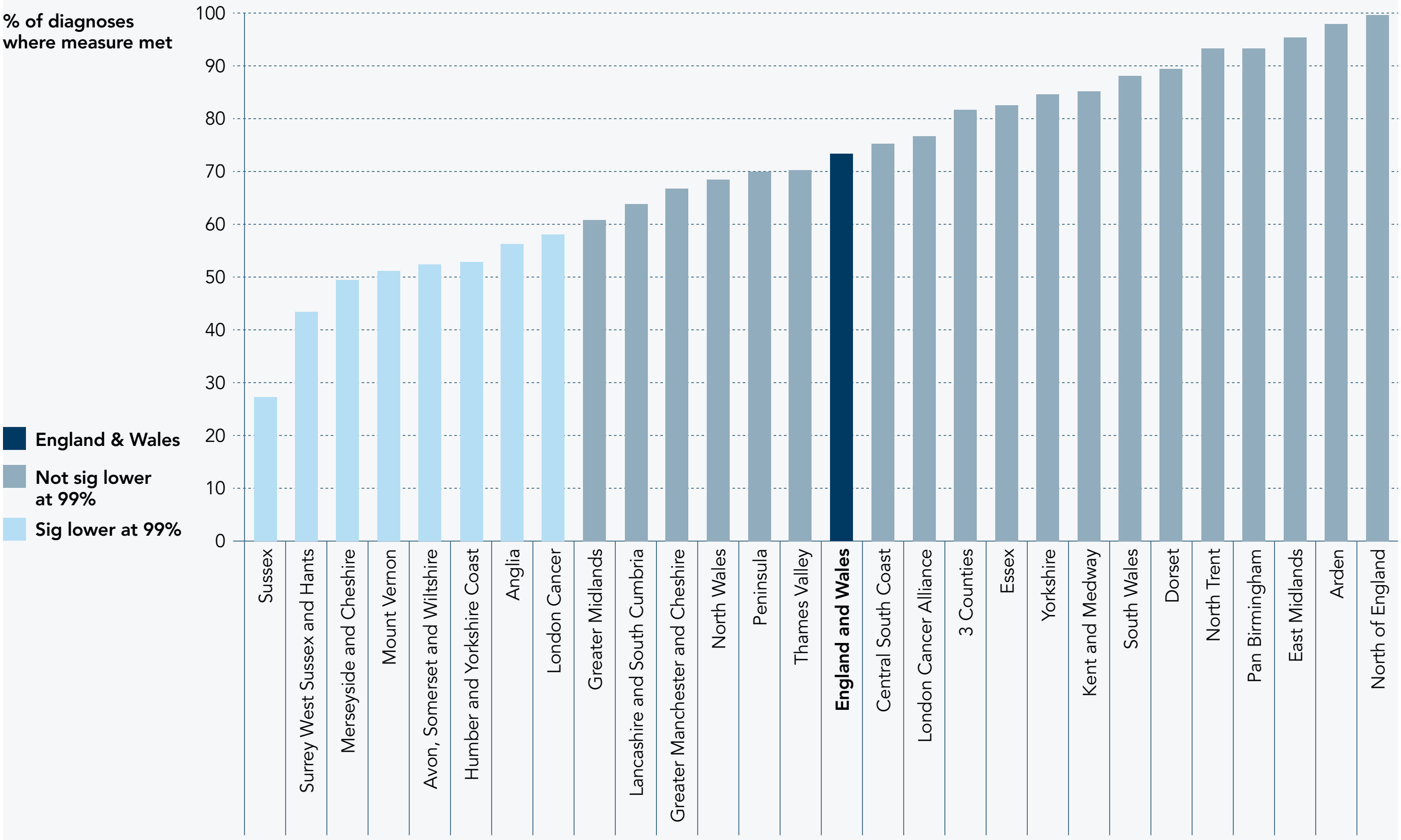
Tables 4.6.5.1
Summary

	All cohort	... with surgery	with surgery and pathological T and N staging	
	n	n	n	%
Total cases	**6464**	**3173**	**2319**	**73.1**
England cases	5983	2962	2141	72.3
Wales cases	481	211	178	84.4

Historical comparison

	Current Audit Year				Previous Audit Year				Difference			
	All cohort	... with surgery	... with surgery and pathological T and N staging		All cohort	... with surgery	... with surgery and pathological T and N staging		All cohort	... with surgery	... with surgery and pathological T and N staging	
	n	n	n	%	n	n	n	%	n	n	n	%
Total cases	**6464**	**3173**	**2319**	**73.1**	**6289**	**3177**	**2201**	**69.3**	**175**	**-4**	**118**	**3.8**
England cases	5983	2962	2141	72.3	5798	2947	2068	70.2	185	15	73	2.1
Wales cases	481	211	178	84.4	491	230	133	57.8	-10	-19	-52	26.5

Figure 4.6.5.1
Network variation in post-resective T and N staging completeness



Performance summary

	Networks		
	Current Audit Year	Previous Audit Year	Difference
85+% pre and post T and N	7	9	-2
<60% pre and post T and N	8	10	-2
<50% pre and post T and N	3	7	-4

	… with < 60% pre and post T and N
Sussex	27.1
Surrey West Sussex and Hants	43.1
Merseyside and Cheshire	48.9
Mount Vernon	50.9
Avon, Somerset and Wiltshire	52.1
Humber and Yorkshire Coast	52.5
Anglia	55.8
London Cancer	57.5

	… with 85+% pre and post T and N
North of England	99.2
Arden	97.5
East Midlands	95.0
Pan Birmingham	93.0
North Trent	92.9
Dorset	89.3
South Wales	87.9

Data source: DAHNO

All diagnoses in audit year with pre-treatment T and N recorded (site applicable for TNM staging).

Clinical comment:

The recording of post-surgical stage has risen in Wales this year from 57.8 per cent to 84.4 per cent. Overall 73.1 per cent of cases undergoing surgery had their pathological status submitted.

Once again there was wide variation between cancer networks, with the variation between the best (North of England 99.2 per cent) and the worst (Sussex 27.1 per cent). The histogram shows that eight cancer networks were significantly lower at 99.0 per cent confidence intervals in their recording of post-surgical staging.

In again considering T3 larynx cancer treated surgically 27.5 per cent were upstaged to T4 on pathological assessment. The implications for the non-surgical management of T3 larynx cancer may be significant given this finding, now seen over two years.

In oral cavity, a 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.

In oral cavity cancer this year 19.6 per cent of N0 cases where post-surgical staging was subsequently recorded were upstaged to N+ disease, (15.9 per cent eighth Annual Report) with 87 patients moving from N0 to N1 and 79 from N0 to N2. This highlights the difficulties in pre-treatment staging of the neck despite sophisticated imaging and nodal assessment criteria.

Recommendations:

Focused effort is required in cancer networks and their contributing MDTs, who have consistently failed in adequately recording stage.

Additional analyses:

Comparison of final pre-treatment stage and post-surgery staging T category.

Comparison of final pre-treatment stage and post-surgery staging N category.

4.7 Assurance of multi-disciplinary care received by patients

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

Audit question:

Is the CNS present at the breaking of bad news for all patients?

Has the patient seen the CNS before the commencement of treatment?

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 (e.g. Macmillan), whose contact details should be provided to all patients at the earliest opportunity. (BAHNO Standard)

Why is this important?

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.

The CNS acts as a source of both support and information for patients and their carers, at initial consultation, when bad news of the diagnosis is broken and also offer support throughout the course of treatment. Head and neck cancer patients often come from the lower socioeconomic strata of society with a concomitantly low level of social support and education[35]. 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 and 2011-2012 Cancer Patient Experience surveys 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.

Results:

1. CNS Present at the breaking of bad news

Tables 4.7.1
Summary

	Current Audit Year			Previous Audit Year	Difference to Audit Year
	Total	CNS Present at bad news		CNS Present at bad news	
	n	n	%	%	%
CNS present at bad news	7817	3776	48.3	43.8	4.5

Cancer network performance
Cancer network performance summary

	Network Total
70+% CNS present breaking of bad news	4 of 25
<20% CNS present breaking of bad news	1 of 25

Cancer networks <20% CNS present bad news

	CNS Present at bad news
	%
Surrey West Sussex and Hants	1.4

Cancer networks 70+% CNS present bad news	
	CNS Present at bad news
	%
Arden	80.9
Greater Midlands	76.6
Central South Coast	71.8
Dorset	70.1

2. Patient being seen by the CNS before the commencement of treatment

Summary

	Total cases				Difference	
	Current Audit Year		Previous Audit Year		to Previous Audit Year	
	n	%	n	%	n	%
England cases undergoing treatment	6326		6298		28	
England cases seen by CNS before treatment	4084	64.6	3446	54.7	638	9.8
England and Wales cases undergoing treatment	6735		-		-	
England and Wales cases seen by CNS before treatment	4356	64.7	-	-	-	-

Cancer network performance*
Highest-lowest recording cancer networks

	Current Audit Year		Previous Audit Year		Difference
	Network Name	Seen by CNS before treatment %	Network Name	Seen by CNS before treatment %	to Previous Audit Year %
Highest network recording	Surrey West Sussex and Hants	93.4	Greater Midlands	89.8	3.6
Lowest network recording	Merseyside and Cheshire	34.0	South East London	0.5	33.6

*Cancer networks reported are those active at the time of the audit.

Cancer network recording summary	
	Network Total
70+% Seen by CNS before treatment	9 of 27
<60% Seen by CNS before treatment	8 of 27

Data source: DAHNO

1) All England and Wales diagnoses in audit year

2) All England diagnoses in audit year with treatment recorded (surgery/chemoradiotherapy/chemotherapy/radiotherapy) includes supportive care and palliative treatment

Clinical comment:

Assurance of the provision of support to head and neck cancer patients along the cancer pathway has greatly improved this year, with a 9.9 per cent rise in confirmation of CNS input prior to the commencement of treatment (64.7 per cent compared to 54.7 per cent in the eighth Annual Report). There has been a 4.5 per cent improvement in confirmation that a CNS was present at the breaking of bad news, with this now occurring in nearly half of cases (48.3 per cent, compared to 43.8 per cent in the eighth Annual Report).

However, considerable challenges remain in a number of cancer networks to ensure that these interventions are occurring. In pre-treatment CNS support, the best confirmation was 93.4 per cent in Surrey, West Sussex and Hants who also recorded the lowest percentage for CNS present at the breaking of bad news at 1.4 per cent.

Figure 4.7.1a
Cancer network variation in CNS present at the breaking of bad news

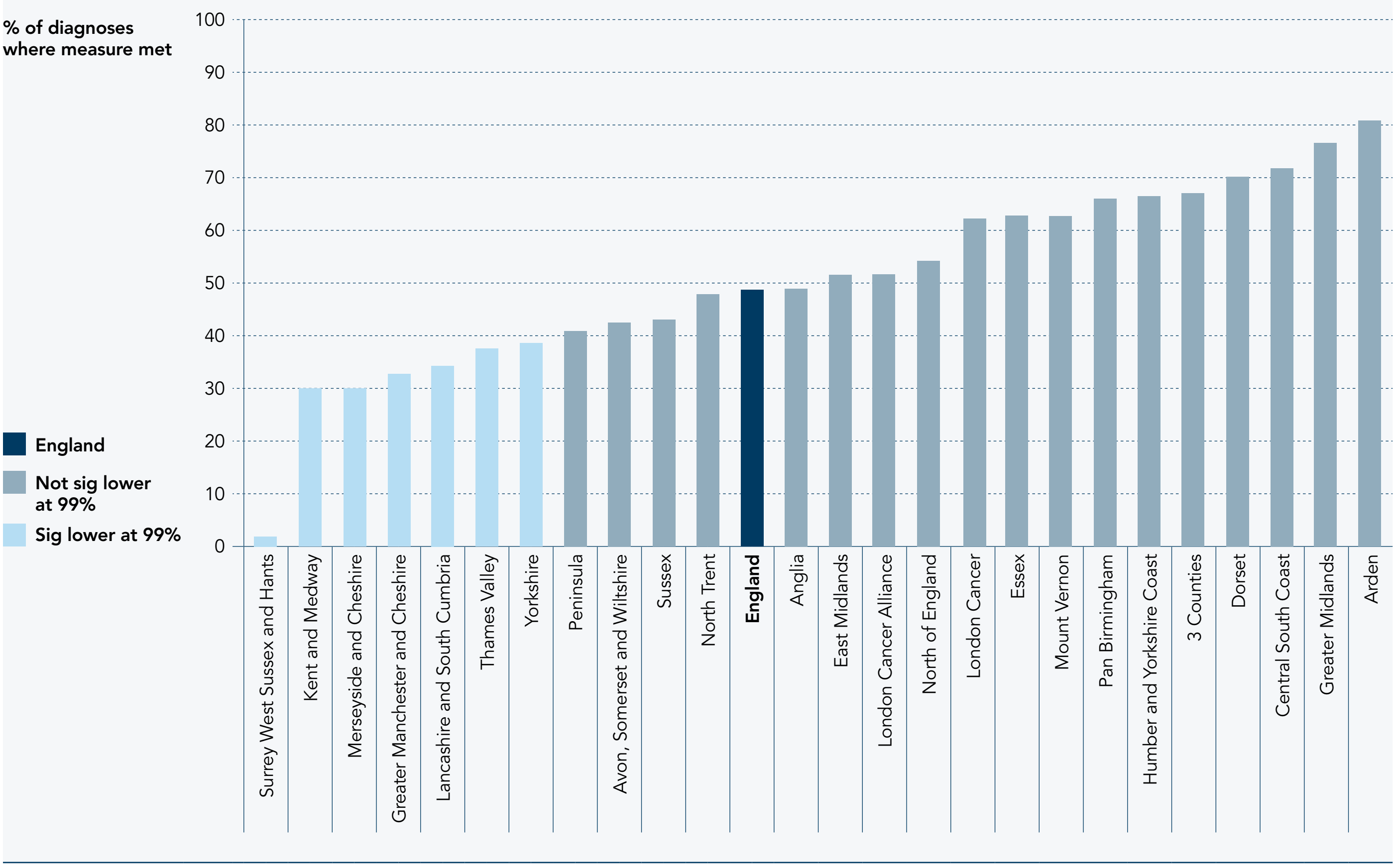
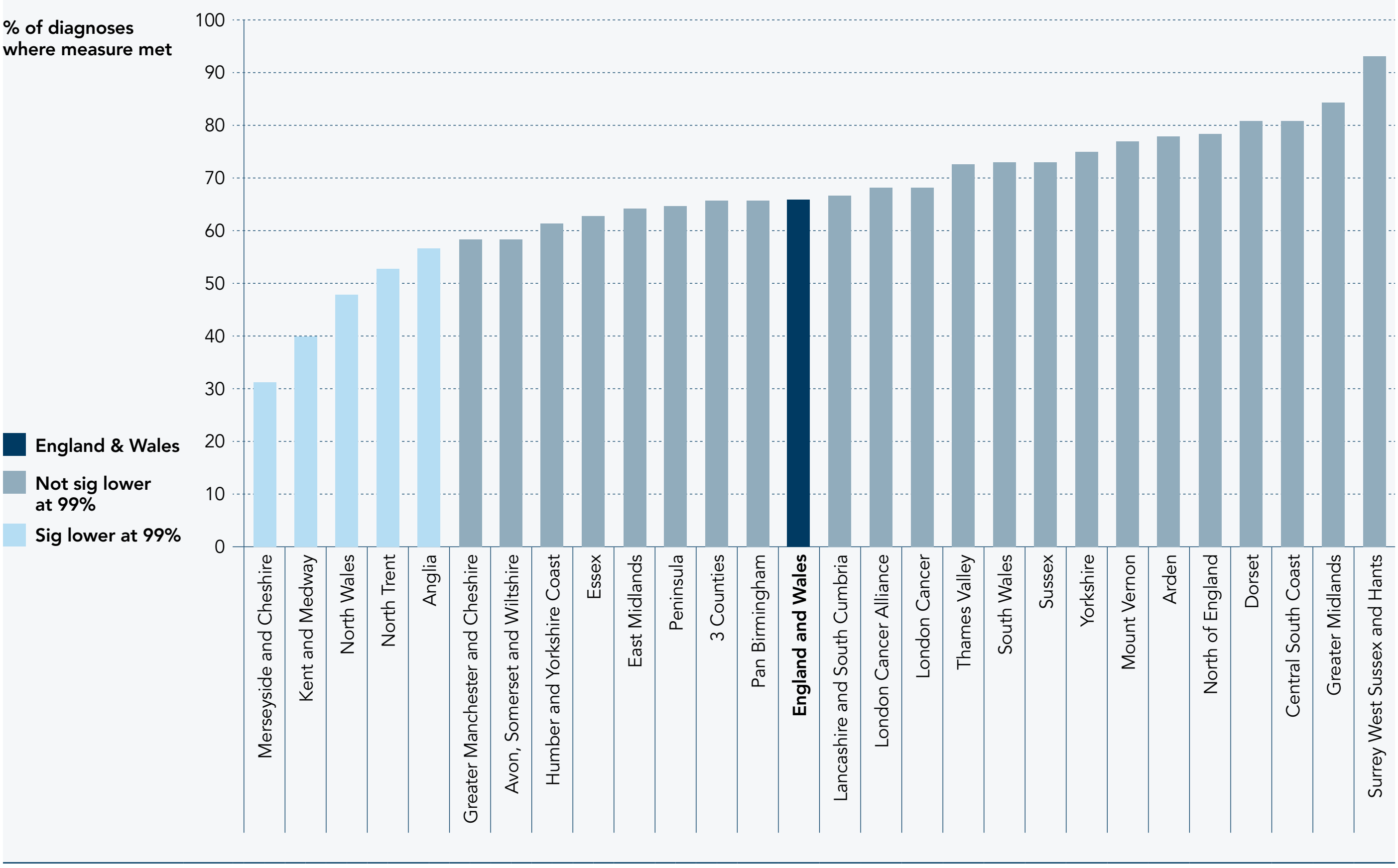


Figure 4.7.1b
Cancer network variation in patient being seen by the CNS before the commencement of treatment



Recommendations:

From the data submitted it appears that MDTs need to concentrate on facilitating the presence of a CNS at the breaking of bad news. This occurs in diagnosing trusts and thus extends beyond trusts holding a MDT.

Additional analyses:

CNS present at the breaking of bad news by cancer network

Patient seen by CNS pre-treatment by MDT provider

Patient seen by CNS pre-treatment by cancer network

4.7.2 Dental health assessment in head and neck cancer care

Audit question:

Are patients receiving a dental health assessment prior to treatment?

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. 100.0 per cent of patients should be assessed by a suitably qualified dental practitioner before and after their main treatment. (BAHNO Standard)

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

Why is this important?

It is important to maintain good oral health both during and following treatment to reduce the incidence of post treatment complications such as osteoradionecrosis and accelerated dental decay. 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 Guidance and BAHNO Standards.

Results:

Tables 4.7.2
Summary

	Total	Pre-treatment dental assessment			
		Current Audit Year		Previous Audit Year	Difference
	n	n	%	%	%
All cohort	6326	2063	32.6	27.8	4.8

Primary site

	Total	Pre-treatment dental assessment			
		Current Audit Year		Previous Audit Year	Difference
	n	n	%	%	%
Larynx	1367	291	21.3	22.7	-1.4
Oral cavity	2034	679	33.4	30.1	3.3
Oropharynx	1771	758	42.8	31.9	10.9
Hypopharynx	307	95	30.9	28.2	2.7
Nasopharynx	118	47	39.8	27.0	12.8
Major Salivary Glands	383	98	25.6	20.8	4.8
Nasal Cavity and Sinus	270	67	24.8	20.8	4.1
Bone Tumours - Mandible and Maxilla	76	28	36.8	28.4	8.4

Cancer network performance:

Information on imaging of the jaw prior to treatment can be found in section 4.8.3.4.

Data source: DAHNO

All England diagnoses in audit year with treatment recorded (surgery/chemotherapy/radiotherapy/chemoradiotherapy).

Clinical comment:

Assurance has been provided that 32.6 per cent of all patients (27.8 per cent in the eighth Annual Report) received a dental assessment prior to the commencement of treatment. There remains variation between anatomic subsites, from 42.8 per cent in oropharynx, to 21.3 per cent in larynx. The Expert Panel believe that this measure needs to be revisited. Although it is recognised that all patients should receive a pre-treatment dental assessment, the audit currently does not record whether a patient is edentulous or not and patients may be being excluded from assessment because of their edentulous status. However, even edentulous patients would benefit from screening to exclude pathology within the jaws that could cause problems during or after treatment such as osteoradionecrosis*.

Recommendations:

The audit needs to understand from dental experts the relevance and recording of the current measure and whether it should be modified in the future.

Additional analyses:

Number of cases having pre-treatment dental assessment by MDT provider.

Number of cases having pre-treatment dental assessment by cancer network.

4.7.3 Speech and language input into head and neck cancer care

Audit question:

Are all appropriate patients receiving input from a speech and swallowing therapist?

Why is this important?

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

Swallowing status has important impacts on quality of life. Little UK information is available on functional aspects of swallowing and the audit wishes to collate information to both provide a better expectation to patients as well as looking at the impacts of treatment.

Clinical comment:

All patient treatment groups

A pre-treatment speech and swallowing assessment is recorded for 1,493 of the registrations (26.7 per cent) with treatment records, including patients with palliative care. This shows a steady year on year improvement in SALT data submission. Pre-treatment speech and swallowing assessments across anatomic sites ranged from 21.2 per cent (nasopharyngeal cancer site 25 cases) to 40.7 per cent (hypopharyngeal cancer site 125 cases).

There was considerable variation between cancer networks. The North of England Cancer Network had the highest number of recorded pre-treatment assessments providing assurance for 51.5 per cent of patients, whilst three cancer networks recorded <5 per cent patients as having been assessed.

Laryngectomy patients

202 laryngectomy procedures were recorded. This represents only patients who underwent laryngectomy as their primary treatment; salvage surgery is not included in the audit.

Just 42.3 per cent (n=94) of the laryngectomy patients had a pre-operative speech and swallow assessment recorded, which is slightly lower than last year's figures (50.0 per cent).

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* Necrosis of the jaw caused by reduced blood supply as a consequence of prior radiotherapy, which can lead to pain, chronic infection and pathological fracture of the jaws.

Communication method was recorded for 22.1per cent of patients at three months: 61.2 per cent primary surgical voice restoration (SVR), 0.0 per cent secondary SVR, 12.2 per cent electrolarynx and 26.5 per cent writing or mouthing. Low numbers (four cases) were reassessed and recorded at the 12 month stage. The SVR rate at three months appears considerably lower than long term success rates reported in the literature. This may relate to delay in healing as 8.2 per cent were nil by mouth at this stage; SVR is usually possible only when patients have oral intake. A further explanation is that secondary SVR is the proposed method of communication. As this may be undertaken after the three month data collection point, it is essential to obtain more 12 month reporting to develop a more complete picture of SVR rates.

Low pre-operative SLT reporting does not appear to reflect clinical practice as prospective laryngectomy patients would be expected to meet therapists routinely.

Dietary intake restrictions

The ninth Annual Report includes information on swallowing status pre-treatment and at three and 12 months post-treatment. Currently, a single outcome measure of a validated diet texture scale (Performance Status Scale; Normalcy of Diet) is recorded.

Prior to treatment, just over half of patients (all patient treatment groups) were on a normal diet at the point of diagnosis, 20.5 per cent of patients had severely restricted diets, at best being able to manage fluids and non-chewable food textures (Normalcy of diet score ≤40). Just 5.2 per cent were completely nil by mouth. Patients with hypopharyngeal cancer were the most likely group to be nil by mouth (12.8 per cent).

Following treatment 16.8 per cent of all patients were having a normal, unrestricted diet and 11.0 per cent were nil by mouth at three months. This is similar to the figure reported in the eighth Annual Report and was comparable across all tumour groups except for cancers of the larynx (6.3 per cent).

Only 20.9 per cent of the laryngectomy patients had data at three months: 13.8 per cent nil by mouth, 10.3 per cent were on a severely restricted diet and 27.6 per cent full diet.

Dietary restrictions across the oropharyngeal group was similar when type of treatment was compared i.e. 52.8 per cent of patients treated with surgery and 57.9 per cent patients treated non-surgically were on a severely restricted diet.

Over 30 per cent of patients at 12 months had severely restricted diets.

The analysis shows an increase in the overall number of entries for speech and swallowing, providing some indication of pre and post-treatment functional outcomes on up to 1,493 patients. The data reported here indicate a lower number of SALT assessments compared to findings from a recent survey by the Head and Neck Clinical Reference Group. The survey reported that over a third of SALT services offered pre-treatment assessments to >85 per cent of their head and neck cancer caseload, but others were unable to provide this service. Therefore, although the audit is unlikely to be showing a complete picture, this combined evidence suggests that a proportion of head and neck cancer patients do not access a pre-treatment SALT assessment.

Explanations for these low figures have been given in previous audit reports and include a number of factors.

Recommendations:

To improve data input, MDTs and organisations are encouraged to provide support to SALT colleagues, prior to treatment and in long term assessment to better understand the impacts of treatment as well as providing assurance of appropriate care.

4.7.4 Dietetic input into the patient pathway

Audit question:

Are patients receiving appropriate dietetic support prior to and following treatment?

Why is this important?

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

The date each new head and neck cancer patient first has contact with a dietitian should be routinely recorded (CLE6)

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. 100.0 per cent of patients should be seen by a dietician prior to the commencement of treatment. (BAHNO Standard)

Results:

Of 6,600 cases, 3,507 (53.1 per cent) contained a nutrition record. 1,890 records of nutrition assessment within one month of treatment were recorded; this represented 28.6 per cent of all records entered into DAHNO.

In keeping with the eighth Annual Report, 46 of 113 treating organisations reported no pre-treatment dietetic assessment.

The predominant method of nutritional support during treatment was recorded in 2,365 records (67.4 per cent). The majority of patients required enteral tube feeding (36.9 per cent), with fewer managing on oral nutrition support alone (23.5 per cent). 6.9 per cent of patients required no nutritional support and 0.1 per cent required parenteral nutrition. 32.6 per cent of the nutrition records did not report the predominant method of nutritional support during treatment.

The predominant tube type used during treatment was gastrostomy (28.8 per cent). 13.2 per cent of records cited nasogastric tube as the predominant tube type; TOFT (trachea-oesophageal fistula tubes) tubes featured in 0.5 per cent of nutrition records and 57.5 per cent of records were blank for this analysis.

Of 3,507 nutrition records 1,206 (34.4 per cent) reported a dietetic assessment within 6 weeks of treatment completion. 111 records (3.2 per cent) did not have post treatment assessment. 62.4 per cent of nutrition records were blank for this parameter.

Change from previous years:

This is the first year that nutrition data has been collected in this format. The only comparable data to the eighth Annual Report is the pre-treatment assessment data field. This has increased by 3.6 per cent compared to the eighth Annual Report. It is anticipated that future reports will provide more comparable data.

Data source: DAHNO

Clinical comment:

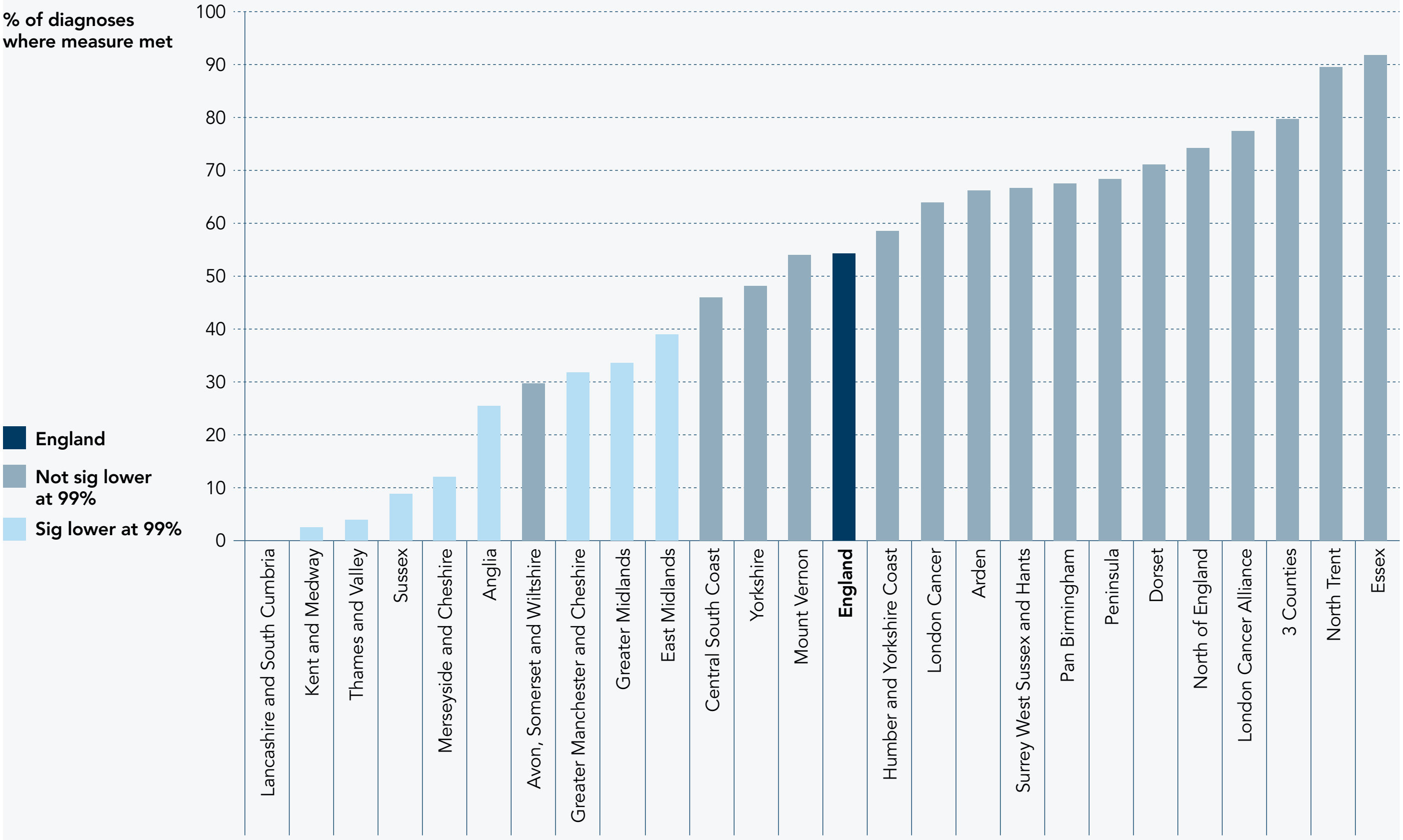
The data collected for the ninth Annual Report was intended to simplify data collection, encourage completion of nutrition records and provide more robust data for the future. Despite these changes there remains a low submission of nutrition data which limits the conclusions that can be drawn.

Of greatest clinical significance this year is method of nutritional support and tube type. As expected the data reflects a high level of enteral tube feeding in the head and neck population as well as a significant proportion of patients requiring oral nutrition support. This highlights the importance of the dietetic support within the patient pathway. Although there remains considerable debate about the most appropriate enteral feeding route, the data suggests that gastrostomy feeding is still the most popular route.

There is great variation between cancer networks in assurance on nutritional assessment. Cancer networks which reported the highest levels of nutrition assessment (>70.0 per cent) included: Essex, North Trent, 3 Counties, London Cancer Alliance, North of England and Dorset. Conversely, Lancashire and South Cumbria, Kent and Medway, Merseyside and Cheshire, Thames Valley and Sussex had low levels of nutrition assessment reported (<12.0 per cent). In particular Lancashire and South Cumbria Cancer Network recorded no nutrition assessments. On discussion with the main head and neck cancer centres in this cancer network, they have recognised that poor data entry contributed to the result.

Figure 4.7.4

Cancer network variation in reported nutritional assessment within one month of start of treatment



Recommendations:

Some of the data fields require minor adjustments to facilitate ease of data collection. These will be in place for the eleventh Annual Report.

Poor completion of nutrition parameters needs to be addressed at both provider and cancer network level.

Additional Analyses

Number of cases having pre-treatment access to a dietitian by MDT provider.

4.8 Receiving timely care

4.8.1 Interval from first symptom to referral and referral pathway

Audit question:

Is there geographical variation in the interval from first symptom to referral? Are patients being referred using the urgent suspected cancer two week rule referral pathway?

Why is this important?

Early cancer diagnosis is a key aspect of Improving Outcomes, A Strategy for Cancer[36] and is supported by the National Awareness and Early Diagnosis Initiative (NAEDI)[37]. The overall goal of NAEDI is to promote earlier diagnosis of cancer, and, through doing so, improve cancer survival rates and reduce cancer mortality.

The National Cancer Patient Experience Survey 2012-13[12] contained submissions from a cohort of 2,425 head and neck cancer patients. 26 per cent of patients saw their GP more than twice prior to referral. Increasing public and professional awareness of the symptoms of head and neck cancer is necessary to minimise delays to referral.

Results:

Tables 4.8.1
Summary

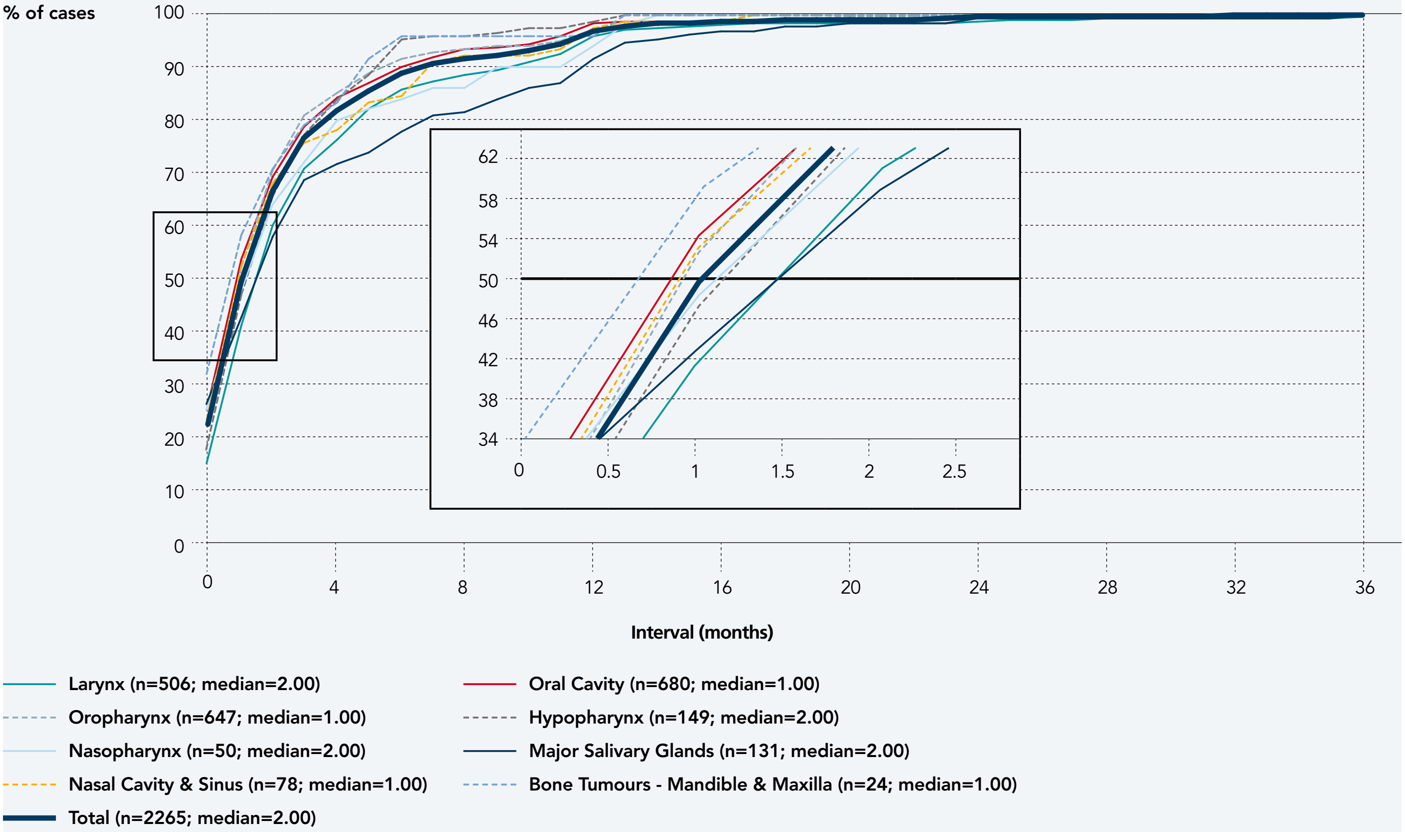
	Total referrals	2 WW	2 WW	Urgent	Urgent	2WW or Urgent	2WW or Urgent
	n	n	%	n	%	n	%
Current Audit Year	7817	3963	50.7	1843	23.6	5806	74.3
Previous Audit Year	7726	3802	49.2	1865	24.1	5667	73.3
Difference	91	161	1.5	-22	-0.5	139	1.0

2WW = 2 week wait

Dental Referrals
From a Community Dental Service / General Dental Practitioner

	Current Audit Year			Previous Audit Year			Difference		
	Total referrals	2 week wait	2 week wait	Total referrals	2 week wait	2 week wait	Total referrals	2 week wait	2 week wait
	n	n	%	n	n	%	n	n	%
Oral Cavity	387	124	32.0	329	112	34.0	58	12	-2.0
Oropharynx	60	26	43.3	44	16	36.4	16	10	9.3

Figure 4.8.1
Interval from first symptom to referral to specialist team



Data source: DAHNO

All England diagnoses in audit year.

Clinical comment:

Just under 75.0 per cent of patients were referred using an urgent referral pathway with 50.7 per cent referred using the two week rule pathway, a similar percentage to that seen in the eighth Annual Report.

There has not been a significant increase in use of the two week rule pathway by general dental practitioners. General dental practitioners referred in 387 patients with tumours of which 124 were referred via the two week rule pathway (32.0 per cent), compared to the overall two week rule referral rate of 50.7 per cent

Recommendations:

Improving public and professional knowledge about the symptoms of head and neck cancer may help reduce delays to referral, but equally may increase false positive referrals.

Cancer networks and MDTs should consider innovative ways of increasing use of the two week rule pathway by general dental practitioners.

4.8.2 Interval from biopsy to reporting

Audit question:

Is there evidence of geographical variation in the interval between biopsy and reporting?

Percentage of cases of head and neck cancer where the interval from biopsy to reporting is less than 10 days (CLE3)

Why is this important?

This is a key enabler of care as treatment cannot be planned or delivered until a tissue diagnosis has been confirmed. For specimens where a second opinion is required to achieve or confirm diagnosis an efficient process to ensure a timely response is needed.

Results:

Tables 4.8.2
Summary

	Total	<=10 day		<=21 day		Blank / Invalid	
	n	n	%	n	%	n	%
England cases	7817	4891	62.6	5432	69.5	2207	28.2
Wales cases	541	423	78.2	475	87.8	48	8.9
All cases	8358	5314	63.6	5907	70.7	2255	27.0

	Total	>10 day		>21 day		Blank / Invalid	
	n	n	%	n	%	n	%
England cases	7817	719	9.2	178	2.3	2207	28.2
Wales cases	541	70	12.9	18	3.3	48	8.9
All cases	8358	789	9.4	196	2.3	2255	27.0

Historical comparison

	Current audit year		Previous audit year		Difference	
	<=10 day %	<=21 day %	<=10 day %	<=21 day %	<=10 day %	<=21 day %
England cases	62.6	69.5	55.2	60.9	7.4	8.6
Wales cases	78.2	87.8	76.2	85.3	2	2.5
All cases	63.6	70.7	56.6	62.5	7	8.2

	Current audit year		Previous audit year		Difference	
	>10 day %	>21 day %	>10 day %	>21 day %	>10 day %	>21 day %
England cases	9.2	2.3	8.1	2.5	1.1	-0.2
Wales cases	12.9	3.3	10.8	1.6	2.1	1.7
All cases	9.4	2.3	8.3	2.4	1.1	-0.1

Cancer network (diagnosing)
Cancer networks where 25+ per cent missing or invalid dates

	% cases with missing or invalid data
Humber and Yorkshire Coast	71.9
Kent and Medway	66.4
London Cancer	61.8
London Cancer Alliance	51.6
Lancashire and South Cumbria	51.1
Central South Coast	44.8
Yorkshire	36.8
Thames Valley	32.4
East Midlands	31.6
Mount Vernon	30.7

Data source: DAHNO

Clinical comment:

The percentage of biopsies reported in less than 10 days has increased from 56.6 per cent in the eighth Annual Report to 63.6 per cent. For those reported in less than 21 days the figure has increased from 62.5 per cent last year to 70.7 per cent in the current cohort.

A higher percentage of cases were diagnosed in Wales in less than 10 days 78.2 per cent, compared to 62.8 per cent in England.

Whilst there appears to be a higher percentage of cases reported in over 10 days in Wales (12.9 per cent compared to England 9.2 per cent), the Welsh data is significantly higher in quality, covering 91.1 per cent of overall submissions compared to 71.8 per cent of cases in England.

In England there are wide variations between cancer networks in the quality of their data submissions, with less than one per cent of missing or invalid entries in 3 Counties, whilst in Humber and Yorkshire Coast 71.9 per cent of submissions failed to include this interval.

The highest performing cancer network – North of England, demonstrated that 91.3 per cent of cases had an interval of less than 10 days against a submission rate of 98.4 per cent of all cases.

The cancer network with the greatest number of cases taking over 10 days for reporting, 3 Counties had 26.7 per cent of cases in this category.

Recommendations:

It is recognised that for 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. Care providers should seek to demonstrate improvements by increasing the volume of submission.

The failure to provide this data (a Clinical Line of Enquiry) leaves providers vulnerable to misinterpretation of the timeliness of their pathology services.

Additional analyses:

Interval from biopsy to reporting <10 days by diagnosing provider.

Interval from biopsy to reporting <21 days by diagnosing provider.

4.8.3 Imaging

4.8.3.1 Imaging of the primary site

Audit question:

How many patients have undergone pre-treatment imaging of the primary site prior to treatment against agreed Standards?

> CT/MRI should be carried out in 90.0 per cent of tumours in all anatomic sites excluding lip and 100 per cent of tumours of the nose / sinus and ear. (BAHNO Standard)

Why is this important?

Appropriate imaging helps to improve the accuracy in defining the extent of disease and thus informs the MDT in the treatment planning process.

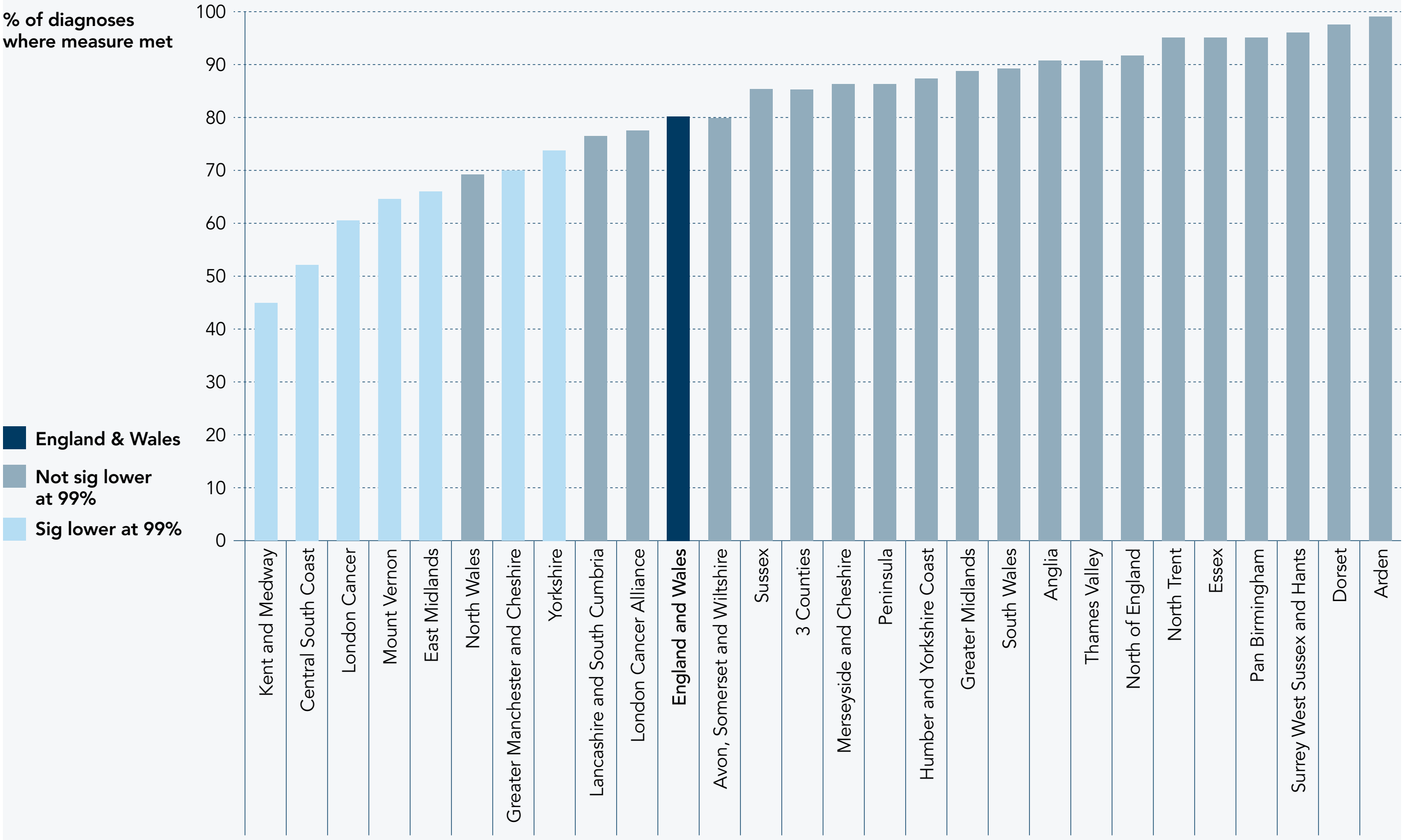
Results:

Tables 4.8.3.1
Summary

	Total	Having PET-CT		Having CT		Having MRI		Having US		Having either PET-CT, CT, MRI or US	
	n	n	%	n	%	n	%	n	%	n	%
England total	6620	514	7.8	4526	68.4	3021	45.6	1037	15.7	5208	78.7
Wales total	747	-	-	241	31.2	217	45.8	287	60.5	400	84.4
England and Wales total	7084	-	-	4767	67.3	3238	45.6	1324	18.7	5608	79.1

	Having either PET-CT, CT, MRI or Ultrasound		
	Current Audit Year %	Previous Audit Year %	Difference %
England total	78.7	76.0	2.7
Wales total	84.4	-	-
England and Wales total	79.1	-	-

Figure 4.8.3.1
Cancer network variation in reported cases having either PET-CT, CT, MRI or US imaging prior to treatment



Data source: DAHNO

Tables: All diagnoses in audit year seen at English or Welsh MDT with any treatment recorded (including palliative intent).

Figure: All diagnoses in audit year seen at English or Welsh MDT with any treatment recorded (including palliative intent).

Clinical comment:

There has been an improvement in reporting of this item in the current audit cycle. Of 7,084 patients in England and Wales, 5,608 (79.1 per cent) were confirmed as having undergone PET CT, CT, MRI or ultrasound prior to treatment.

Nine cancer networks provided assurance in over 90.0 per cent of their patients that they had received imaging of the primary site and thus met the standard above. The worst performing cancer network - Kent and Medway, provided assurance in only 44.7 per cent of patients that this investigation had taken place. The variation between cancer networks and those falling outside of 99.0 per cent confidence intervals is shown in the histogram above.

Recommendations:

Cancer networks and MDTs with poor returns should review their processes and give assurance to patients and commissioners that patients are being investigated appropriately prior to treatment.

Additional analyses:

Number of cases having pre-treatment CT/MRI/US by MDT provider.

4.8.3.2 Imaging of the chest

Audit question:

Are all patients receiving chest imaging prior to the commencement of treatment?

Why is this important?

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 ensure that chest imaging has been carried out and reported prior to the agreement of a care plan.

Audit Standard

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

Results:

Tables 4.8.3.2
Summary

	Total	PET-CT / CT / X-ray pre-treatment*	
	n	n	%
All diagnoses	6620	4499	68.0

Summary

95+% pre-treatment chest imaging (Trusts > 5 cases)	17 of 123

Data source: DAHNO

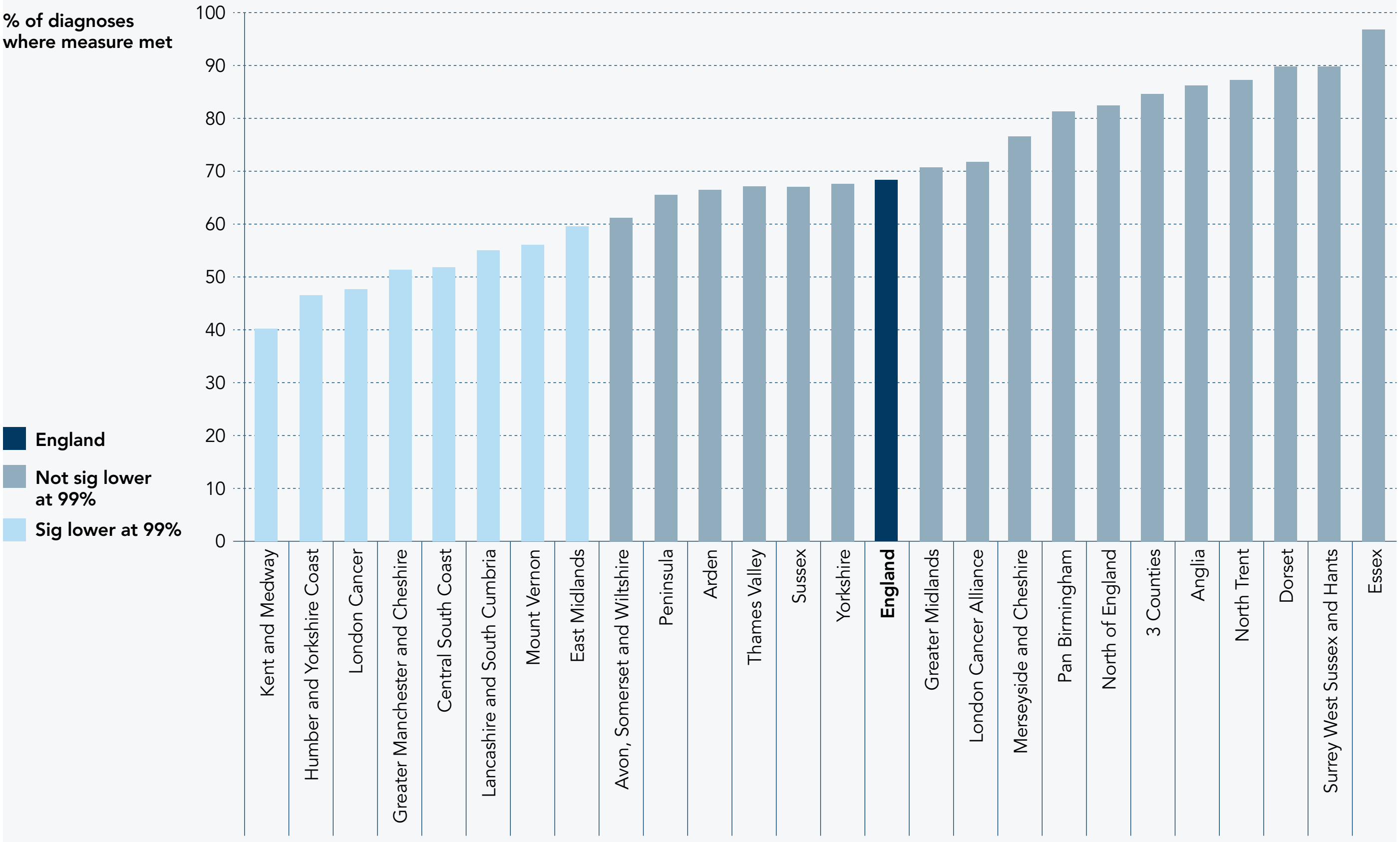
Cohort: All England diagnoses in audit year with treatment recorded.

Clinical comment:

4,499 patients in England (68.0 per cent of all diagnoses having treatment) are evidenced as having had chest imaging by chest X-ray, CT or PET CT prior to treatment. This has risen by 8.6 per cent from the comparable 59.3 per cent achieved – with the inclusion of PET CT - last year. The highest performing cancer network in England (Essex) met the required standard of over 95.0 per cent of cases. 17 diagnosing provider organisations (with over five cases) provided assurance that in over 95.0 per cent of their cases chest imaging occurred prior to treatment.

There remains significant variation both within and between cancer networks in the level of assurance provided that chest imaging has occurred.

Figure 4.8.3.2
Cancer network variation in reported cases having chest imaging by chest X-ray, CT or PET CT prior to treatment



Recommendations:

All diagnosing trusts should re-visit both their MDT process and data recording to provide high levels of assurance that this standard is being met.

Additional analyses

Number of cases with pre-treatment imaging of the chest by cancer network.

Number of cases with pre-treatment chest imaging by diagnosing provider.

4.8.3.3 PET Scanning

Audit question:

Is there variation in the requesting of PET CT scans in England?

Why is this important?

PET (Positron Emission Scanning) 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. In head and neck cancer the indications for the use of PET CT have not been fully defined apart from in the management of occult disease. Protocols currently vary across cancer networks and tend to be locally derived rather than from national guidance.

Results:

Tables 4.8.3.3
Summary

	All Cases	PET scans					
		Audit Year		Previous Audit Year		Difference	
	n	n	%	n	%	n	%
England total	6620	514	7.8	518	7.9	-4	-0.1

Primary site breakdown

	Total	PET scans					
		Audit Year		Previous Audit Year		Difference	
	n	n	%	n	%	n	%
Larynx	1426	72	5.0	76	5.1	-4	-0.1
Oral Cavity	2117	79	3.7	105	5.1	-26	-1.4
Oropharynx	1842	253	13.7	229	12.5	24	1.3
Hypopharynx	342	38	11.1	29	8.4	9	2.7
Nasopharynx	124	20	16.1	22	16.8	-2	-0.7
Major Salivary Glands	397	34	8.6	29	8.0	5	0.6
Nasal Cavity and Sinus	291	14	4.8	22	7.7	-8	-2.9
Bone Tumours - Mandible and Maxilla	81	4	4.9	6	6.7	-2	-1.8
All cohort	**6620**	**514**	**7.8**	**518**	**7.9**	**-4**	**-0.1**

MDT Cancer network

	PET scans				
	Audit Year		Previous Audit Year		Difference
Highest reporting network	North of England	100	Kent and Medway	87	13
Lowest reporting network	Lancashire and South Cumbria	2	Greater Midlands / Sussex	0	2

	Cancer networks	
	Audit Year	Previous Audit Year
>0 PET scans reported in network	25 of 25	26 of 28
<5 PET scans reported in network	5 of 25	6 of 28

Data source: DAHNO

Clinical comment:

A similar number of PET CT scans are recorded this year compared to the eighth Annual Report, with 7.8 per cent of patients in England recorded as having undergone PET CT prior to treatment. The most frequent anatomic sites where PET CT was carried out were for pharyngeal disease, with 16.1 per cent of nasopharynx cases, 13.7 per cent for oropharynx and 11.1 per cent of hypopharynx.

There was wide variation in reported PET CT usage between cancer networks, with the highest being in North of England with 100 PET CT scans recorded, equating to 20.1 per cent of new diagnoses in the cancer network compared to Lancashire and South Cumbria where two patients were recorded as having PET CT scans (1.2 per cent) and Avon Somerset and Wiltshire where three were performed (1.1 per cent) and Kent and Medway who also performed three (1.4 per cent). The England average was 7.8 per cent.

4.8.3.4 Pre-treatment OPG assessment

Audit question:

How many patients received an OPG radiograph prior to treatment?

Why is this important?

An orthopantomogram (OPG) is a radiological assessment of the dentition and jaws that forms an element of the pre-treatment dental assessment. It also can provide an assessment of tumour invasion of the mandible and additionally is a useful screening tool for other pathologies of the jaws that could influence treatment.

Results:

Table 4.8.3.4
Summary

	Current Audit Year		Previous Audit Year		Difference	
	Total n	**Total %**	**Total n**	**Total %**	**Total n**	**Total %**
All cohort diagnoses	6620		6570		50	
… having OPG	1678		1247		431	
… … with dental assessment	1107	66.0	765	61.3	342	4.6
… … without dental assessment	571	34.0	482	38.7	89	-4.6

Information on pre-treatment dental assessment can be found in section 4.7.2.

Data source: DAHNO

All England diagnoses in audit year with treatment recorded.

Clinical comment:

BAHNO is currently reviewing the standard that requires all patients with head and neck cancer to have a pre-treatment OPG.

1,678 patients are recorded as having had an OPG, an increase of 431 compared to the eighth Annual Report. It remains difficult to determine whether this represents poor data quality or differences in appreciation of the benefits of an OPG.

Recommendations:

Clinicians should carefully consider whether this simple radiographic investigation could add benefit to the management of their patients and use the existing BAHNO Standard prior to completion of the standards review.

4.8.4 The head and neck MDT – are all patients discussed?

Audit question:

Are all patients with head and neck cancer being discussed in a multi-disciplinary team meeting (MDT)?

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)

Why is this important?

Improving Outcomes Guidance (IOG) Measures in England identify that a multi-disciplinary team discussion should be undertaken for all patients with head and neck cancer. Genuinely multi-disciplinary working and combined decision making benefits patients by increasing the probability that the interventions offered will be those that are most appropriate for them. MDTs whose members can offer the full range of necessary skills, and who have access to a greater variety of facilities, are more likely to provide effective, efficient and comprehensive services for their patients.

MDT meetings ensure that each patient is considered from a range of viewpoints by people with different areas of specialisation, who can pool their expertise and learn from one another.

Results:

Tables 4.8.4
Summary

	Total	Recorded Status: Yes		Recorded Status: No		Unknown	
	n	n	%	n	%	n	%
All cohort diagnoses	8358	7932	94.9	426	5.1	0	0.0
… in England	7817	7396	94.6	421	5.4	0	0.0
… in Wales	541	536	99.1	5	0.9	0	0.0

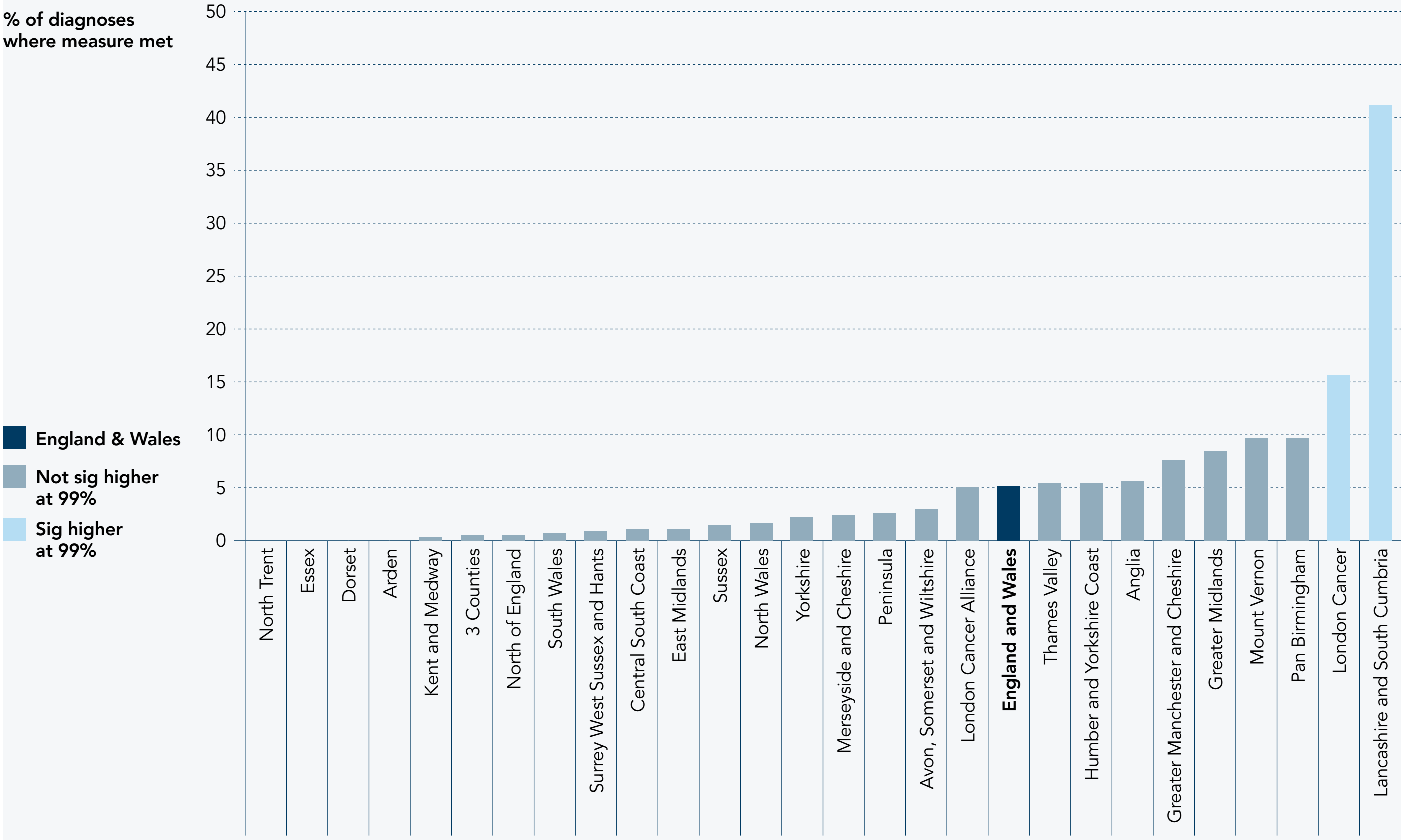
Historical comparison

	Current Audit Year			Previous Audit Year			Difference		
	Yes %	No %	Unknown %	Yes %	No %	Unknown %	Yes %	No %	Unknown %
All cohort diagnoses	94.9	5.1	0.0	95.6	4.2	0.2	-0.7	0.9	-0.2
… in England	94.6	5.4	0.0	95.5	4.4	0.0	-0.9	1.0	0.0
… in Wales	99.1	0.9	0.0	96.9	0.4	2.7	2.2	0.5	-2.7

Cancer networks with >= 15% Recorded :No

	Total	Recorded Status: No	
	n	n	%
Lancashire and South Cumbria	307	126	41.0
London Cancer	369	57	15.4

Figure 4.8.4
Cancer network variation in diagnoses reported as having not been discussed at MDT



Data source: DAHNO

Clinical comment:

The figures relating to discussion at MDT demonstrate that there has been an increased improvement in Wales, with 99.1 per cent of patients confirmed as discussed at a MDT, whilst in England this has reduced by 0.9 per cent to 94.6 per cent. Overall, 426 patients (5.1 per cent) are recorded this year as not discussed at a MDT.

The best performing cancer networks are now reporting 100 per cent of cases discussed at MDT.

There still remains variation between cancer networks of the number of patients who are stated as not having been discussed at a MDT, and this is shown in the histogram above. The cancer network with the highest number of cases recorded as not discussed was Lancashire and South Cumbria with 126 cases (41.0 per cent), the second highest was London Cancer with 57 cases (15.4 per cent). Within Lancashire and South Cumbria the following hospitals showed extremely high levels of patients not being discussed at a MDT, with Lancashire Teaching Hospitals 91.2 per cent (62) and University Hospitals of Morecombe Bay 89.6 per cent (43).

Within London Cancer one hospital Barking Havering and Redbridge University Hospital recorded 75.5 per cent (40) not discussed at MDT.

Recommendations:

Where such a large number of patients are recorded as not having their care discussed at MDT commissioners should investigate the functional arrangements for the delivery of head and neck cancer care.

Additional analyses:

Number of cases discussed by the MDT by MDT provider and cancer network.

4.8.5 The head and neck MDT - are all patients with resective pathology discussed?

Audit question:

Are all patients who undergo surgery having their resective pathology discussed at a MDT?

Why is this important?

Improving Outcomes Guidance (IOG) Measures in England identify that a MDT should undertake postoperative review of histopathological findings on all patients who have undergone surgery. This allows both interaction between the pathologist and surgeon, to agree 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.

Results:

Tables 4.8.5
Summary

	Resective Pathology Discussed						
	Total	Yes		No		Unknown	
	n	n	%	n	%	n	%
All cohort	3981	2442	61.3	1121	28.2	418	10.5
… in England	3776	2249	59.6	1109	29.4	418	11.1
… in Wales	205	193	94.1	12	5.9	0	0.0

Historical comparison

	Resective Pathology Discussed								
	Current Audit Year %			Previous Audit Year %			Difference %		
	Yes	No	Unknown	Yes	No	Unknown	Yes	No	Unknown
All cohort	61.3	28.2	10.5	53.5	33.5	13.0	7.9	-5.3	-2.5
… in England	59.6	29.4	11.1	51.4	34.8	13.8	8.1	-5.4	2.7
… in Wales	94.1	5.9	0.0	88.7	11.3	0.0	5.5	-5.5	0.0

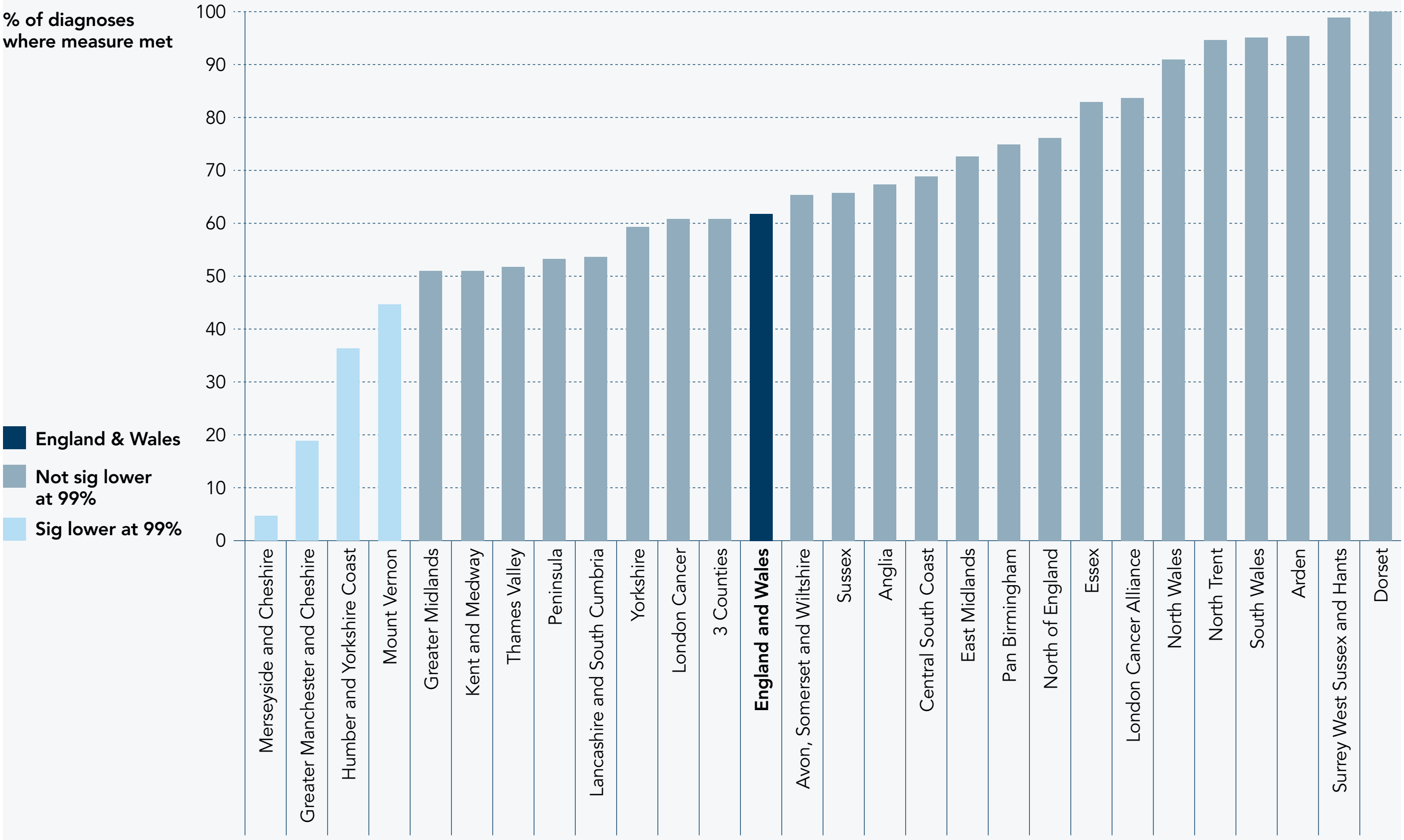
Intervals: Surgical resection to reporting:
Summary

	LQ reporting interval			Median reporting			UQ reporting interval		
	Audit Year	Previous Audit Year	Difference	Audit Year	Previous Audit Year	Difference	Audit Year	Previous Audit Year	Difference
All cohort	6.0	5.0	1.0	9.0	9.0	0.0	15.0	15.0	0.0

Intervals: Surgical resection to reporting:
By primary site

	Surgery episodes	Reporting interval > 48 days	
	n	n	%
Larynx	538	10	1.9
Oral Cavity	1465	38	2.6
Oropharynx	723	11	1.5
Hypopharynx	110	1	0.9
Nasopharynx	16	0	0.0
Major Salivary Glands	260	5	1.9
Nasal Cavity and Sinus	164	3	1.8
Bone Tumours - Mandible and Maxilla	45	0	0.0
Total	**3321**	**68**	**2.0**

Figure 4.8.5
Treating cancer network variation in reported post-resective pathology discussed at MDT



Data source:

DAHNO

All diagnoses in audit year with surgery as first treatment (excluding palliative intent) by first treating provider organisation.

Clinical comment:

There has been improvement in the discussion of resective pathology in both England and Wales, with Wales maintaining higher levels of attainment than England (94.1 per cent against 59.6 per cent).

The median interval for the reporting of resection specimens remains unchanged at nine days. However, the number of specimens that took more than 48 days has reduced to 2.0 per cent (68) from 3.8 per cent (121) in the eighth Annual Report.

Dorset is to be congratulated for fully meeting this standard with 100.0 per cent of their cases having resective pathology discussed at MDT. Five other cancer networks achieved greater than 90.0 per cent confirmation that this measure was met: Arden, North Trent, Surrey West Sussex and Hants, North Wales and South Wales. The variation between cancer networks is shown in the histogram above.

Recommendations:

MDTs are encouraged to provide evidence that all cases with resective pathology are discussed at their MDT.

Additional analyses:

Post resective pathological staging where final pre-treatment staging is recorded by diagnosing provider.

4.8.6 Interval from diagnosis to first treatment

Audit question:

Are there delays in the interval from diagnosis to treatment between cancer networks and MDTs?

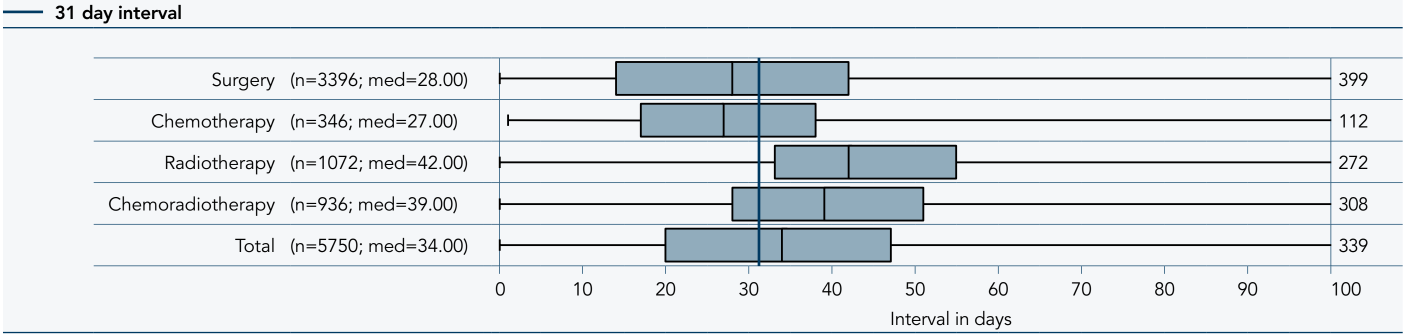
Why is this important?

The work up of a head and neck cancer patient is a complex pathway requiring input from multiple professional groups and support services. The timely delivery of care requires significant coordination often at a time of significant anxiety for patients and their families.

Results:

Figure 4.8.6

Interval from date of diagnosis to start of first definitive treatment and range of intervals by treatment type



Tables 4.8.6

Median diagnosis - first definitive treatment (days)

	Current Audit Year	Previous Audit Year	Difference
All first treatments	34.0	32.0	2.0
… surgery only	28.0	27.0	1.0
… chemotherapy only	27.0	26.0	1.0
… radiotherapy only	42.0	41.0	1.0
… chemoradiotherapy only	39.0	39.0	0.0

Longest cancer network waits – surgery

	Median diagnosis - surgery (days)	
Longest median wait	Sussex	38.5
2nd longest median wait	Dorset	36.0
3rd longest median wait	3 Counties	34.5

Longest cancer network waits – chemoradiotherapy

	Median diagnosis - chemoradiotherapy (days)	
Longest median wait	North Wales	57.0
2nd longest median wait	3 Counties	55.0
3rd longest median wait	Arden	54.0

Longest cancer network waits – radiotherapy

	Median diagnosis - radiotherapy (days)	
Longest median wait	North Wales	61.5
2nd longest median wait	Pan Birmingham	61.0
3rd longest median wait	Central South Coast	50.5

Interval from diagnosis to first definitive treatment by cancer network and provider organisation with the longest and the shortest median intervals for surgical and non-surgical treatment can be found here.

Data source: DAHNO

All diagnoses in year with treatment – excluding palliative intent; treatment date within one year of diagnosis.

Clinical comment:

The median interval this year has risen across all treatments to 34 days compared to 32 in the eighth Annual Report. Looking at treatment types, surgery has increased from 27 to 28 days, radiotherapy from 41 to 42 days and chemoradiotherapy remains unchanged at 39 days.

The chart shown above this uses a box and whisker format, where the vertical line within the box indicates the median value and the right and left edges of the box reflect the upper and lower quartile values (75.0 per cent and 25.0 per cent of patients). The number of patients and the median value are shown on the left hand side of the chart.

In examining the interval to radiotherapy the upper quartile value is 55 days, meaning that a quarter of patients are waiting 55 days or more from diagnosis to start their treatment. The English cancer waiting times target to the start of treatment is 31 days from the agreed decision to treat, which will form part of the measured interval. The evidence supplied this year indicates that a very significant number of patients are likely to be waiting well beyond this target to start their radiotherapy.

There remains a wide variation both between cancer networks and within cancer networks in the median interval from diagnosis to first treatment.

The cancer network with the longest median wait to surgery is Sussex at 38.5 days and the treating organisation with the longest median wait is Norfolk and Norwich University Hospitals NHS Foundation Trust at 57.0 days.

For chemoradiotherapy the longest median interval is North Wales at 57.0 days followed by 3 Counties at 55.0 days and Arden at 54.0 days.

For radiotherapy the longest median interval is North Wales at 61.5 days and Pan Birmingham at 61.0 days.

Recommendations:

Cancer networks and treating organisations should continue to review the timeliness of their treatment pathways to remove any unavoidable delays. Whilst the head and neck pathway is complex, the wide variation seen between cancer networks and treating organisations providing similar care pathways suggest that further improvement opportunities exist.

Current practice for head and neck cancer patients is to offer, where appropriate, Intensity Modulated Radiotherapy (IMRT). This offers patients the possibility of reduced treatment side effects but requires more complex time consuming planning and work up, which may contribute to a delay to the start of treatment. Geographical variation may be also influenced by the ease and speed of access to this treatment modality. The audit has for the first time reviewed the eighth cohort to look at the frequency of where IMRT had been utilised (Appendix 7).

Cancer networks and commissioners should continue to monitor the provision of radiotherapy services to ensure patents are not disadvantaged by access difficulties.

Additional analyses:

Interval from date of diagnosis to start of first definitive treatment by treating cancer network.

Interval from date of diagnosis to start of first definitive treatment (radiotherapy) by cancer network.

Interval from date of diagnosis to start of first definitive treatment (chemoradiotherapy) by cancer network.

Interval from date of diagnosis to start of first definitive treatment (surgery) by treating trust.

Interval from date of diagnosis to start of first definitive treatment (radiotherapy) by treating trust.

Interval from date of diagnosis to start of first definitive treatment (chemoradiotherapy) by treating trust.

4.8.7 Surgical length of stay

Audit question:

What is the variation between cancer networks and treating trusts for matched categories of care in postoperative length of stay?

Why is this important?

"Improving Outcomes, A Strategy for Cancer"[36], highlighted that the majority of cancer patients wish to be in hospital for as short a time as possible. With the pressures on hospital beds, this analysis can help plan the inpatient requirements for hospitals in dealing with their caseload by ensuring that adequate resources are available and has the potential benefit of freeing up NHS resources. By analysing the median length of stay, better planning of discharges with integrated social care and community support can be achieved in a timely fashion.

Results:

Tables 4.8.7
Summary

	Total	
	n	%
Total cases	**8358**	
... with treatment surgery	4101	49.1
... ... with 1 surgery record	3708	90.4
... ... with 2+ surgery records#	393	9.6
Total surgery records	4521	
… with a date of discharge	3086	68.3

All diagnoses that had 2 or more surgical records recorded against a single case were grouped together. No case was identified with more than 3 surgical records.

Length of stay

	Median LOS - All
All records with surgery and discharge date	3.0

Data source: DAHNO

All diagnoses in audit year with a discharge date between 0 and 365 days after an existing procedure date.

Clinical comment:

Excluding day cases, the median length of postoperative stay in England and Wales was five days, with a mean of 10.0 days. The mean may be skewed by a small number of patients with extremely long length of stay.

The median varied by cancer network, with the highest median in London Cancer Alliance and Yorkshire at 9.0 days against the shortest median in Avon Somerset and Wiltshire, Merseyside and Cheshire and Sussex at 2.0 days. This level of variation is not that surprising as case mix, type of procedure and distribution of anatomic sites will vary between organisations. Other external factors such as ease of discharge for complex patients will have a bearing as will supra regional referral of complex cases.

The highest median length of stay by anatomic sub site was seen in hypopharynx at 17.0 days with late stage larynx at 15.0 days and late stage oral cavity at 13.0 days.

In the absence of data on post-surgical complications it has been suggested that length of stay should be used as a proxy for complications; however, the presented data suggests this would be a poor discriminator of the quality of delivered care.

Recommendations:

Treating trusts and cancer networks should use the available information to support resource and discharge planning as well as making peer comparisons to see if opportunities in reduction in length of stay can be achieved.

The head and neck community should examine the process by which the recording of surgical complications could be standardised to both assure patients and commissioners of the quality of services and to facilitate learning from adverse outcomes. This would enable future audit to look into causation of complications and potentially develop avoidance strategies.

Additional analyses:

Length of stay for surgical patients by cancer network and treating provider.

4.8.8 Interval to adjuvant radiotherapy

Audit question:

Are patients being delayed receiving adjuvant radiotherapy following primary surgery?

Why is this important?

Adjuvant radiotherapy is a key part of many head and neck treatment plans and ideally should be started within six weeks of surgery. Previous annual reports have identified significant delays in accessing radiotherapy services. Where adjuvant radiotherapy is required it can commonly be determined prior to surgery and therefore to reduce delays the forward planning of adjuvant radiotherapy can be helpful.

Results:

Table 4.8.8
Summary – All cases with surgery

	Total surgery	… with post-op radiotherapy		Median interval (days)
	n	n	%	
All cases with surgery	4101	819	20.0	51.0

Primary Site summary – larynx

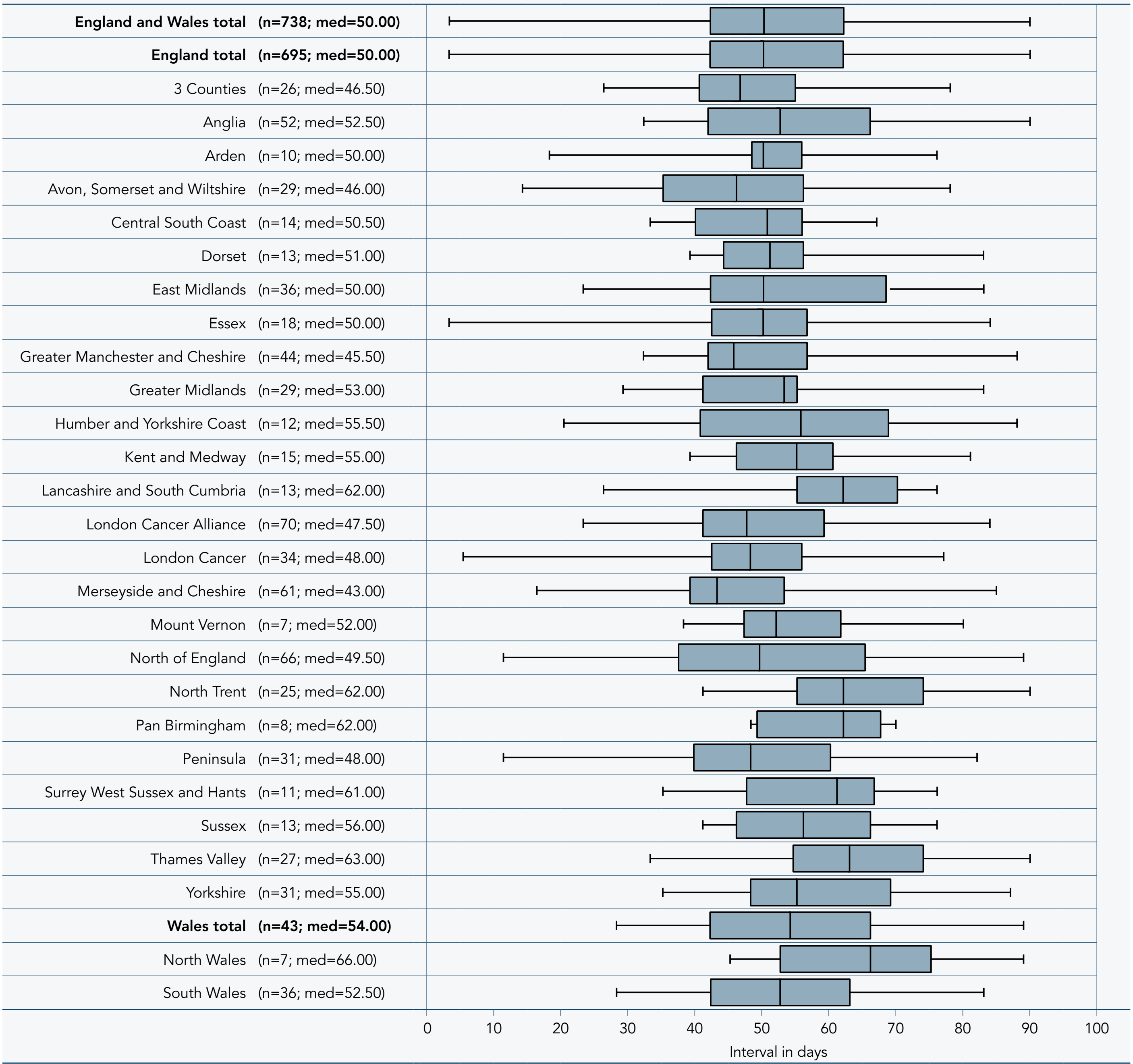
	Total with 1st treatment surgery	… with post-op radiotherapy	
	n	n	%
Early larynx	321	63	19.6
Advanced larynx	234	81	34.6
Unknown stage larynx	107	21	19.6

	Laryngectomy	… with post-op radiotherapy	
	n	n	%
Early larynx	32*	0	0.0
Advanced larynx	149	45	30.2
Unknown stage larynx	37	9	24.3

* of the 32 early larynx with total laryngectomy, pathological staging is; 13 early, 7 advanced and 12 unknown. Laryngectomy procedures: 20 total, 5 supraglottic, 7 vertical.

	Unspecified procedure	… with post-op radiotherapy	
	n	n	%
Early larynx	44	18	40.9
Advanced larynx	29	10	34.5
Unknown stage larynx	35	6	17.1

Figure 4.8.6
Interval from date of surgery to start date of post-operative radiotherapy - MDT network (larynx/OC/*pharynx/MSG)



Change from previous years:

Data source: DAHNO

a) All diagnoses in year with surgery as a treatment -

b) Larynx / oral cavity / pharynxes / major salivary gland diagnoses in audit year with radiotherapy date >= surgery date and having an MDT

Clinical comment:

The median is 51.0 days for all anatomic sites (53.0 days eighth Annual Report, 49.0 days seventh Annual Report). Of 4,101 patients undergoing surgery, 819 had postoperative radiotherapy equating to 20.0 per cent, consistent with the figure seen in the eighth Annual Report despite the expectation of the Expert Panel that this figure would be much higher.

In the subset of patients with larynx cancer treated by surgery in early larynx, 19.6 per cent of patients proceeded to post-operative radiotherapy, whilst in advanced stage larynx this figure was 34.6 per cent. Of 218 patients having total laryngectomy 54 (24.8 per cent) had post-operative radiotherapy.

In comparing the interval from date of surgery to the start of adjuvant radiotherapy there is a significant variation in median time between those with the longest interval in North Wales (66.0 days) and Thames Valley (63.0 days) and the cancer network with the shortest interval (Merseyside and Cheshire), with a median of 43.0 days. The interpretation of the comparative data between cancer networks should be taken with some caution as the numbers from some cancer networks are low, reflecting either variation of case mix, limited use of post-operative radiotherapy or poor data quality.

No cancer network achieved a median interval less than 42 days, the recommended maximum interval between surgery and post-operative radiotherapy.

Recommendations:

Cancer networks should review their treatment pathways to see if pre-surgical treatment process planning could reduce this interval in patients where the MDT has agreed post surgery radiotherapy.

Cancer networks with low returns of patients with post-surgical radiotherapy should ensure all eligible patients have their data submitted.

4.9 Clinical outcomes eighth and ninth Annual Report cohorts

Audit question:

What proportion of patients is deceased within one, two and three years of their diagnosis and does this vary by anatomic subsite, treatment and cancer network?

Why is this important?

Death from head and neck cancer has multifactorial causation, identifying trends in different management strategies may help healthcare professionals involved in the delivery of head and cancer care develop the most appropriate pathways of care.

4.9.1 Death

The previous methodology described in the eighth Annual Report was used to supplement audit data with information from the Medical Research Information Service (MRIS) of deaths in this cohort. These are deaths occurring less than 14 months from diagnosis and are deaths from all causes equating to crude mortality.

4.9.1.1 Ninth annual report cohort – deaths recorded

Tables 4.9.1.1
Summary

	Total	Deaths*	
	n	n	%
All cohort	8358	1116	13.4

	Larynx	Oral cavity	Oropharynx	Hypopharynx	Nasopharynx	Major Salivary Glands	Nasal Cavity and Sinus	Bone Tumours - Mandible and Maxilla	Total
Number of deaths*	192	360	283	117	24	58	56	26	1116
Total number of cases*	1783	2668	2318	456	166	481	375	101	8348
Proportion died (%)*	10.8	13.5	12.2	25.7	14.5	12.1	14.9	25.7	13.4

*Excludes cases with deaths recorded outside 0-365 days of diagnosis

4.9.1.2 Eighth annual report cohort – deaths within one year of diagnosis

Tables 4.9.1.2
Summary

	Total	Deaths	
	n	n	%
All cohort	8258	1674	20.3

	Larynx	Oral cavity	Oropharynx	Hypopharynx	Nasopharynx	Major Salivary Glands	Nasal Cavity and Sinus	Bone Tumours - Mandible and Maxilla	Total
Number of deaths	323	550	414	177	21	55	96	38	1674
Total number of diagnoses	1908	2568	2322	428	173	371	368	120	8258
Proportion died %	16.9	21.4	17.8	41.4	12.1	14.8	26.1	31.7	20.3
Previously reported proportion deceased in previous Annual Report at close of extraction %	9.8	12.8	11.0	28.1	7.6	11.0	15.1	21.2	12.5

Updated number of deaths (crude death rate) within one year of diagnosis using data from eighth Annual Report, cohort with a date of diagnosis in the eighth annual report audit year

4.9.1.3 Cumulative survival analysis by cohort

Tables 4.9.1.3
Cumulative survival analysis by submission cohort and anatomic subsite, 2 years

Primary site group	2-years crude survival (95% confidence intervals)							
	2009-10				2010-11			
	Total	Survived		95% CI	Total	Survived		95% CI
	n	n	%		n	n	%	
Larynx	1652	1206	73.0	(70.8 - 75.1)	1775	1312	73.9	(71.8 - 75.9)
Oral Cavity	1896	1258	66.4	(64.2 - 68.4)	2011	1320	65.6	(63.5 - 67.7)
Oropharynx	1925	1351	70.2	(68.1 - 72.2)	2042	1419	69.5	(67.5 - 71.4)
Hypopharynx	390	163	41.8	(37.0 - 46.7)	468	174	37.2	(32.9 - 41.6)
Nasopharynx	196	138	70.4	(63.7 - 76.4)	168	115	68.5	(61.1 - 75.0)
Major Salivary Glands	448	315	70.3	(65.9 - 74.4)	403	276	68.5	(63.8 - 72.8)
Total	**6507**	**4431**	**68.1**	**(67.0 - 69.2)**	**6867**	**4616**	**67.2**	**(66.1 - 68.3)**

Primary site group	2009-10			2010-11		
Larynx	Total	Survived		Total	Survived	
	n	n	%	n	n	%
Early	654	565	86.4	706	620	87.8
Late	547	313	57.2	558	326	58.4
Unknown	451	328	72.7	511	366	71.6
Total Larynx	1652	1206	73.0	1775	1312	73.9
Oral Cavity	Total	Survived		Total	Survived	
Early	708	576	81.4	803	638	79.5
Late	693	354	51.1	706	362	51.3
Unknown	495	328	66.3	502	320	63.7
Total Oral Cavity	**1896**	**1258**	**66.4**	**2011**	**1320**	**65.6**
Oropharynx	Total	Survived		Total	Survived	
Early	225	187	83.1	245	196	80.0
Late	1140	770	67.5	1215	841	69.2
Unknown	560	394	70.4	582	382	65.6
Total Oropharynx	**1925**	**1351**	**70.2**	**2042**	**1419**	**69.5**

Cumulative survival analysis by submission cohort and anatomic subsite, 3 years

Primary site group	3-years crude survival (95% confidence intervals)							
	2008-09				2009-10			
	Total	Survived		95% CI	Total	Survived		95% CI
	n	n	%		n	n	%	
Larynx	1518	1011	66.6	(64.2 - 68.9)	1651	1085	65.7	(63.4 - 68.0)
Oral Cavity	1665	1001	60.1	(57.7 - 62.4)	1896	1135	59.9	(57.6 - 62.0)
Oropharynx	1522	975	64.1	(61.6 - 66.4)	1924	1227	63.8	(61.6 - 65.9)
Hypopharynx	351	126	35.9	(31.1 - 41.0)	390	142	36.4	(31.8 - 41.3)
Nasopharynx	180	114	63.3	(56.1 - 70.0)	196	120	61.2	(54.2 - 67.8)
Major Salivary Glands	412	239	58.0	(53.2 - 62.7)	448	298	66.5	(62.0 - 70.7)
Total	**5648**	**3466**	**61.4**	**(60.1 - 62.6)**	**6505**	**4007**	**61.6**	**(60.4 - 62.8)**

Primary site group	2008-09			2009-10		
Larynx	**Total**	**Survived**		**Total**	**Survived**	
	n	n	%	n	n	%
Early	548	449	81.9	654	528	80.7
Late	449	205	45.7	546	268	49.1
Unknown	521	357	68.5	451	289	64.1
Total Larynx	**1518**	**1011**	**66.6**	**1651**	**1085**	**65.7**
Oral Cavity	**Total**	**Survived**		**Total**	**Survived**	
Early	595	460	77.3	708	526	74.3
Late	566	229	40.5	693	305	44.0
Unknown	504	312	61.9	495	304	61.4
Total Oral Cavity	**1665**	**1001**	**60.1**	**1896**	**1135**	**59.9**
Oropharynx	**Total**	**Survived**		**Total**	**Survived**	
Early	149	107	71.8	224	170	75.9
Late	836	526	62.9	1140	701	61.5
Unknown	537	342	63.7	560	356	63.6
Total Oropharynx	**1522**	**975**	**64.1**	**1924**	**1227**	**63.8**

4.9.1.4 Eighth Annual Report cohort – deaths recorded within one year of diagnosis, supplemented with MRIS data (crude death rate)

Tables 4.9.1.4
Summary

	Total	Death in 14 months					
		England and Wales		England		Wales	
	n	n	%	n	%	n	%
All cohort	8258	1676	20.3	1574	20.3	102	20.3

Cancer Network	**Proportion died (%)**								
	Larynx	**Oral cavity**	**Oropharynx**	**Hypopharynx**	**Nasopharynx**	**Major Salivary Glands**	**Nasal Cavity and Sinus**	**Bone Tumours - Mandible and Maxilla**	**Total**
3 Counties	16.3	19.2	14.8	30.8	25.0	16.7	0.0	0.0	17.4
Anglia	16.2	21.9	24.6	50.0	0.0	8.3	33.3	0.0	23.7
Arden	27.3	31.9	*	*	*	*	*	0.0	28.2
Avon Somerset and Wiltshire	8.0	17.1	20.0	40.0	12.5	15.8	25.0	0.0	16.2
Central South Coast	14.3	27.9	*	*	*	*	*	0.0	20.2
Dorset	22.7	25.0	10.9	45.5	0.0	10.0	50.0	0.0	21.0
East Midlands	13.0	25.6	14.6	35.0	20.0	5.9	13.0	0.0	18.6
Essex	14.5	21.9	22.6	66.7	0.0	30.8	20.0	0.0	20.7
Greater Manchester and Cheshire	16.0	26.8	17.4	30.6	10.0	0.0	31.3	100.0	21.1
Greater Midlands	15.1	25.6	22.2	31.6	0.0	11.8	17.6	0.0	21.1
Humber and Yorkshire Coast	24.4	19.2	18.9	28.6	20.0	25.0	0.0	66.7	21.7
Kent and Medway	21.6	22.4	10.0	0.0	0.0	28.6	28.6	0.0	18.4
Lancashire and South Cumbria	22.4	26.3	16.8	61.5	0.0	11.1	44.4	20.0	23.0
London Cancer Alliance	22.4	18.2	23.4	47.4	0.0	11.8	21.2	16.7	20.5
London Cancer	20.2	20.0	21.8	27.8	7.1	21.7	35.7	22.2	21.2
Merseyside and Cheshire	21.3	14.0	19.1	45.2	0.0	7.7	30.8	46.2	20.1
Mount Vernon	23.8	16.7	25.8	57.1	16.7	33.3	45.5	66.7	26.8
North of England	20.0	15.0	19.0	35.3	12.5	11.5	30.0	54.5	20.4
North Trent	14.1	19.5	14.3	54.2	12.5	18.2	54.5	0.0	20.5
Pan Birmingham	16.7	23.6	21.1	54.5	50.0	9.5	20.0	42.9	22.0
Peninsula	21.4	18.1	16.0	55.6	16.7	16.7	33.3	25.0	20.0
Surrey West Sussex and Hants	23.9	25.9	13.8	60.0	25.0	14.3	25.0	40.0	22.0
Sussex	11.1	28.1	5.9	33.3	0.0	25.0	30.0	50.0	19.3
Thames Valley	11.4	17.9	9.1	45.5	0.0	10.0	10.0	50.0	15.0
Yorkshire	11.6	19.3	12.9	36.7	22.2	25.0	17.4	28.6	17.4
England total	**17.5**	**21.4**	**17.4**	**40.8**	**11.1**	**15.2**	**26.6**	**32.2**	**20.3**
North Wales	*	*	18.2	*	*	0.0	*	0.0	16.7
South Wales	*	*	26.4	*	*	0.0	*	0.0	21.3
Wales total	**9.7**	**22.4**	**24.2**	**57.1**	**27.3**	**0.0**	**16.7**	**0.0**	**20.3**
England and Wales total	**16.9**	**21.4**	**17.9**	**41.4**	**12.1**	**15.1**	**26.1**	**31.7**	**20.3**

* (asterisk) in table cell = percentage to a small number between 1-4 [primary suppression] or another percentage relating to a small number (including zero) selected for secondary suppression (i.e. to ensure that the primary suppression cannot be derived by subtraction).

4.9.3 Treatment related deaths

Table 4.9.3
Summary

	Total	Deaths within 30 days		Deaths within 90 days	
	n	n	%	n	%
Surgical treatment	4101	60	1.5	129	3.1
Non-surgical treatment	2695	70	2.6	185	6.9

Treatment intent breakdown

	Total	Deaths within 30 days		Deaths within 90 days	
	n	n	%	n	%
Surgical					
… with curative intent	3255	46	1.4	92	2.8
... with diagnostic/staging intent	242	4	1.7	11	4.5
… with palliative intent	27	2	7.4	6	22.2
… with no recorded intent (blank)	346	2	0.6	10	2.9
… with unknown intent (9)	201	5	2.5	9	4.5
… with adjuvant treatment intent	24	1	4.2	1	4.2
… with neoadjuvant treatment intent	6	0	0.0	0	0.0
Non-surgical				185	
… with curative intent	1860	21	1.1	66	3.5
... with diagnostic intent	0	0	0.0	0	0.0
… with palliative intent	340	37	10.9	90	26.5
… with no recorded intent	156	3	1.9	8	5.1
… with unknown intent (9)	116	3	2.6	9	7.8
… with adjuvant treatment intent	86	0	0.0	1	1.2
… with neoadjuvant treatment intent	137	6	4.4	11	8.0

	Ninth Annual Report	Eighth Annual Report	Seventh 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	166	165	112
Deaths following surgical treatment			
Number of reported deaths within 30 days of surgery or with discharge destination 'death' after surgery	60	54	33
… following diagnostic surgery	4	3	5
… following surgery with curative intent	46	41	21
… following surgery with palliative intent	2	5	1
… following surgery with no treatment intent recorded	2	1	6
… following surgery with unknown treatment intent recorded	5	4	0
… with surgery with neoadjuvant treatment intent	1	0	0
Total number of patients with recorded curative intent in surgery table	3287	3228	-
Deaths following non-surgical treatment			
Number of reported deaths within 30 days of radiotherapy or with discharge destination 'death' after radiotherapy	50	53	38
... within 90 days of radiotherapy ...	121	136	111
... within 30 days of chemotherapy...	13	22	21
... within 90 days of chemotherapy ...	33	41	42
... within 30 days of chemoradiotherapy …	7	7	2
... within 90 days of chemoradiotherapy …	31	30	10

Clinical comment

Of the 8,358 cases, 1,116 patients were identified as deceased (13.4 per cent) within the ninth Annual Reporting period taken at 11 December 2013 as the point of analysis. This is deaths from 0-365 days after diagnosis.

The previously noted year on year reduction in the proportion of deaths appears to have plateaued (eighth Annual Report 12.5 per cent). A comparison across different anatomic sites shows as expected the greatest proportion of deaths at almost double the overall rate occurring in hypopharynx cancer.

Proportion of deaths in the index period within one year of diagnosis supplemented by MRIS data comparing seventh, eighth and ninth Annual Reports

	Larynx %	Oral cavity %	Oropharynx %	Hypopharynx %	Nasopharynx %	Major Salivary Glands %	Total %	MRIS Date
7th Report	11.2	14.3	14.1	30.8	16.6	11.1	14.4	6th Jan 2012
8th Report	9.8	12.8	11.0	28.1	7.6	11.0	12.2	6th Dec 2012
9th Report	10.8	13.5	12.2	25.7	14.5	12.1	13.1	11th Dec 2013

There is variation in crude death rates between cancer networks with the in-year crude death rate varying from 8.4 per cent to 17.1 per cent with the England and Wales average being 13.4 per cent.

Examining the three most common anatomic sites (larynx, oral cavity and oropharynx) there was again considerable variation amongst cancer networks. Larynx crude mortality ranged from 5.3 per cent to 20.0 per cent, oral cavity from 2.9 per cent to 21.7 per cent and oropharynx from 7.3 per cent to 24.4 per cent. A variety of factors are likely to contribute to this variation. To make a true comparison, a robust risk adjustment model needs to be followed, but this requires comprehensive submission of the applicable risk factors.

The eighth Annual Report cohort mortality data was updated by supplementation with MRIS data to allow the consideration of one year crude death rate, giving a true one year crude mortality rate. The one year rate for the eighth Annual Report cohort is 20.3 per cent for both England and Wales an improvement on the previous year's 21.6 per cent. Whilst the crude death rate for oral cavity and larynx is very similar to the last report, there has been a reduction from 20.6 per cent (confidence interval 18.9 to 22.4 per cent) to 17.8 per cent (confidence interval 16.3 to 19.4 per cent)in oropharynx which provides moderate evidence of a trend of improvement in survival but this needs to be considered in light of the absence of case mix adjustment and standardisation. In the remaining anatomic sites the numbers are relatively small and year to year variation could be expected. It is reassuring to see that mortality rates have not worsened despite published evidence from the USA suggesting this trend.

Survival analysis is now presented as both two year and for the first time three year cumulative survival. This is further broken down in larynx, oral cavity and oropharynx into cumulative survival by early and late disease.

When comparing two and three year there is a consistency year on year in survival rates and when comparing between two and three year survival, there is approximately a six per cent reduction in survival between two and three years, suggesting that co-morbidities may be influencing deaths rather than just disease progression. When comparing early versus late stage disease in larynx, oral cavity and oropharynx, there is a consistency in survival rates between the two year cohorts. The importance of stage is demonstrated by, in larynx, a 29.3 per cent difference in two year survival (87.1 per cent and 57.8 per cent). In oral cavity a similar 29.2 per cent difference was seen (80.3 per cent to 51.2 per cent). In oropharynx the effect is less marked with around a 13.1 per cent worse two year survival in late stage disease (81.5 per cent to 68.4 per cent). In larynx, oral cavity and oropharynx similar stage related differences are seen at three years.

The consistency within this data allows MDTs and commissioners to have a ready source of expected outcomes data, clinicians can more easily engage patients in discussions about likely outcomes based on early and late stage comparators.

When looking at the eighth Annual Report cohort and comparing deaths recorded within one year of date of diagnosis to formulate a crude death rate by cancer network, the values produced 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. Despite these limitations this data provides useful information on the variation in geographic outcome. The submission by MDTs of case mix variables will better allow this variation to be examined and true risk adjusted outcomes defined. For the ninth Annual Report an overview of case mix has been created with confidence intervals, looking at the key variables of; significant co-morbidity, poor performance status, advanced age, marked deprivation and a higher proportion of late stage at presentation, which can be found here. This will enable a more sophisticated assessment of death rates in the tenth Annual Report.

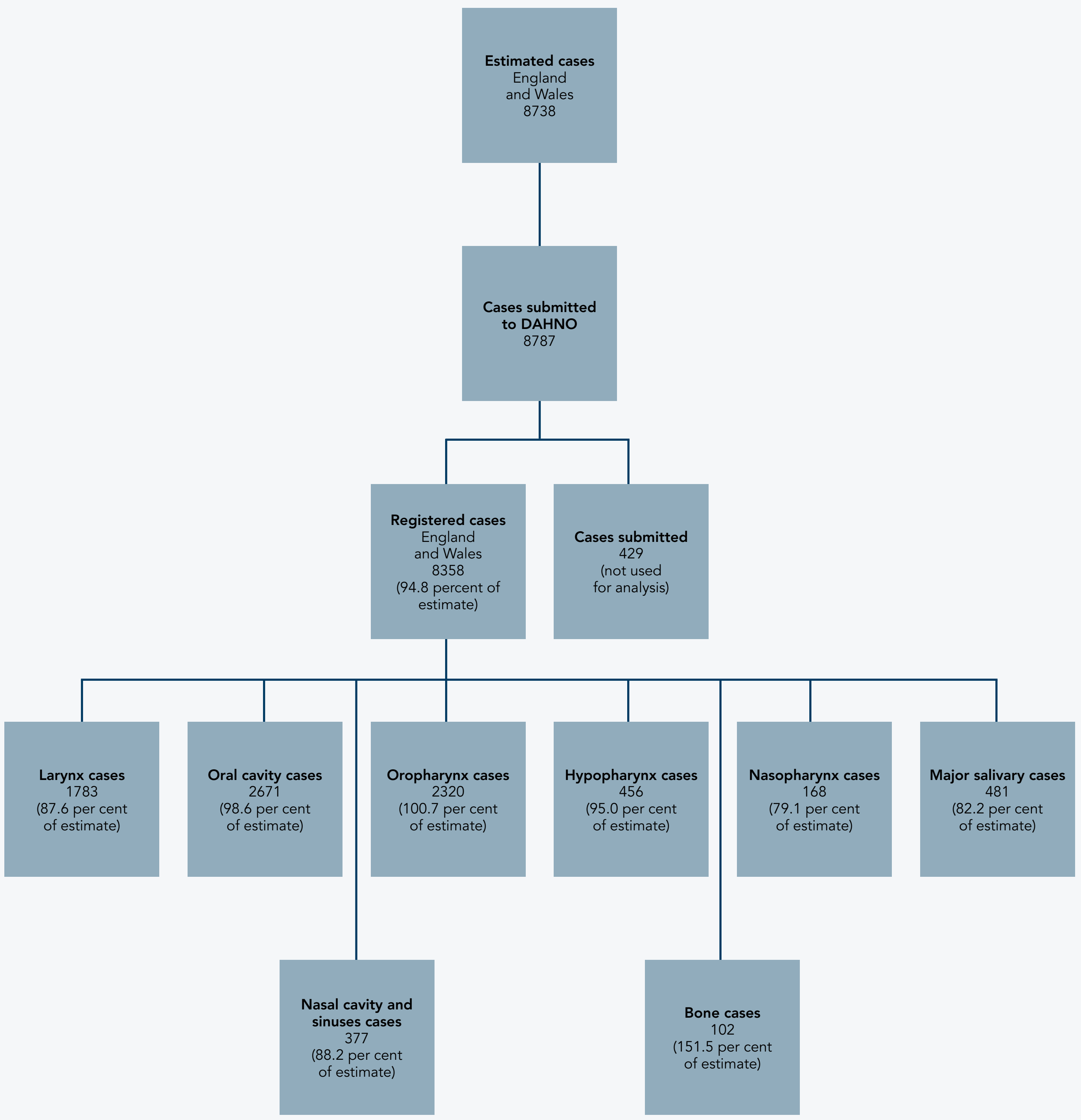
In considering treatment related deaths within 30 and 90 days, it needs to be recognised that performing complex treatments in a predominately elderly population with significant co-morbidities will inevitably lead to some deaths in the peri-treatment period. Overall head and neck surgery remains safe, with 60 peri-operative deaths of which 46 were in some 3,255 surgical procedures carried out with curative intent (1.4 per cent). 129 patients died within 90 days of surgery (3.1 per cent) of which 92 were with curative intent. The audit will review these cases with respect to procedure type and case mix variables described above at a later date to report on contributory factors that might define difficulties in appropriate case selection.

Audit data will form part of the information that will contribute to the second round of surgeon specific outcomes published by NHS England in the autumn of 2014.

For non-surgical treatment, of the 2,695 patients recorded who underwent radiotherapy, chemotherapy and chemoradiotherapy there were 70 deaths within 30 days (2.6 per cent) and 185 deaths at 90 days (6.9 per cent). These results show an improvement over those seen in the eighth Annual Report. The non-surgical group included patients treated with palliative intent (12.6 per cent).

Appendix 1

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



Appendix 2

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 new 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 as 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 new 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 3

2013 Membership of DAHNO/NCIN Head and Neck SSCRG and Professional and Charitable Bodies Represented		
Chair SSCRG	Richard Wight	DAHNO Audit Chair
Cancer Registry	Monica Roche	Public Health England - South East Knowledge and Intelligence Team
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
HSCIC - 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	Elspeth Desert	Clinical Psychology
Surgery - ENT	Mark Watson	ENT UK Head and Neck
Nursing	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	Tim Helliwell	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 4

Number of registered new head and neck primaries by subsite

Site	Subsite	Total	Cumulative cases from audit inception
Larynx	Glottis	902	6712
	Supraglottis	406	3003
	Larynx Unspecified	393	2333
	Subglottis	66	314
	Laryngeal Cartilage	16	211
	Total	**1783**	**12573**
Oral cavity	Tongue	1251	6440
	Cheek Mucosa	208	1285
	Floor of Mouth	463	2654
	Hard Palate	88	696
	Lip Inner Aspect	145	751
	Mouth Unspecified	128	414
	Retromolar Area	157	1003
	Upper and Lower Gingivae	209	1189
	Vestibule of Mouth	22	273
	Total	**2671**	**14705**
Oropharynx	Base of Tongue	621	3346
	Lateral Wall	25	154
	Oropharynx Unspecified	252	1019
	Posterior Wall (Oropharynx)	34	186
	Soft Palate	207	940
	Tonsil	1107	5292
	Uvula	37	146
	Vallecula	37	133
	Total	**2320**	**11216**
Hypopharynx	Aryepiglottic Fold	17	85
	Overlapping Lesion Hypopharynx	136	633
	Piriform Sinus	231	1158
	Postcricoid Region	44	317
	Posterior Wall (Hypopharynx)	28	185
	Total	**456**	**2378**
Nasopharynx	Nasopharynx	168	1010
	Total	**168**	**1010**
Major salivary glands	Major Salivary Glands	481	2405
	Total	**481**	**2405**
Nasal Cavity and Sinus	Cartilage and Septum Nose	222	425
	Maxillary Sinus	112	232
	Ethmoidal Sinus	16	39
	Frontal Sinus	5	6
	Sphenoidal Sinus	11	18
	Accessory Sinus	11	25
	Total	**377**	**745**
Bone Tumours - Mandible and Maxilla	Bones of Skull and Face	36	66
	Bones of Mandible	66	156
	Total	**102**	**222**
England and Wales		**8358**	**45254**

Appendix 5

Head and neck cancer histological diagnoses reported

	M8020/3	M8041/3	M8070/3	M8071/3	M8051/3	M8072/3		M8140/3	M8200/3	M8430/3	M8550/3	M8941/3		Other	Blank	Total
	Un-differentiated carcinoma	Small cell carcinoma	Squamous cell carcinoma (Not Otherwise Specified)	Keratinising squamous carcinoma	Verrucous carcinoma	Non-keratinising squamous carcinoma	Squamous cell carcinoma variants	Adenocarcinoma, not otherwise specified	Adenoid cystic carcinoma	Mucoepidermoid carcinoma	Acinic cell carcinoma	Carcinoma in pleomorphic adenoma (malignant mixed tumour)	Other salivary variants			
Larynx	1	4	1376	93	5	7	11	3	3	0	1	0	7	30	242	1783
Oral Cavity	4	1	2050	150	26	3	4	19	21	17	5	1	19	25	326	2671
Oropharynx	6	5	1794	103	2	22	5	16	9	14	0	1	9	11	323	2320
Hypopharynx	1	0	352	26	0	5	0	2	0	0	0	0	0	3	67	456
Nasopharynx	19	1	77	3	1	13	0	10	1	0	0	0	0	3	40	168
Major Salivary Glands	8	4	94	4	0	0	2	59	32	40	42	24	37	12	123	481
Nasal Cavity and Sinus	9	4	180	16	1	6	3	22	13	1	1	1	5	21	94	377
Bone Tumours - Mandible and Maxilla	0	0	72	3	0	0	2	0	0	0	0	0	0	3	22	102
Total	**48**	**19**	**5995**	**398**	**35**	**56**	**27**	**131**	**79**	**72**	**49**	**27**	**77**	**108**	**1237**	**8358**

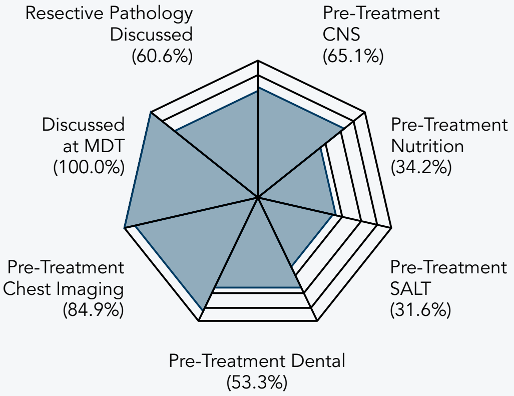
Grouped histologies

SCC VAR	M8075/3 : Adenoid squamous carcinoma; M8074/3 : Spindle cell squamous carcinoma
SAL VAR	M8500/3 : Salivary duct carcinoma; M8525/3 : Polymorphous low grade adenocarcinoma; M8560/3 : Adeno-squamous carcinoma; M8562/3 : Epithelial-myoepithelial carcinoma; M8147/3 : Basal cell adenocarcinoma; M8480/3 : Mucinous adenocarcinoma

Appendix 6

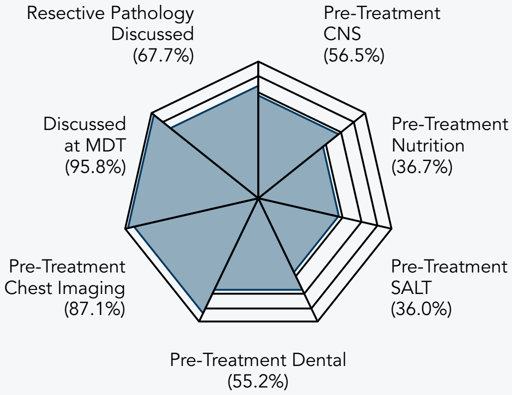
Pathway measures summary and percentage of pathway indicators met (by first treating network)

3 Counties



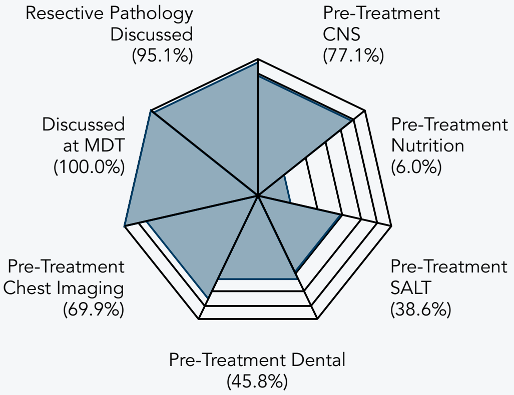
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	5.9	15.8	21.1	32.2	10.5	14.5		3.7
Pathway (7)	0.0	3.2	10.6	28.7	25.5	26.6	4.3	1.1	3.8

Anglia



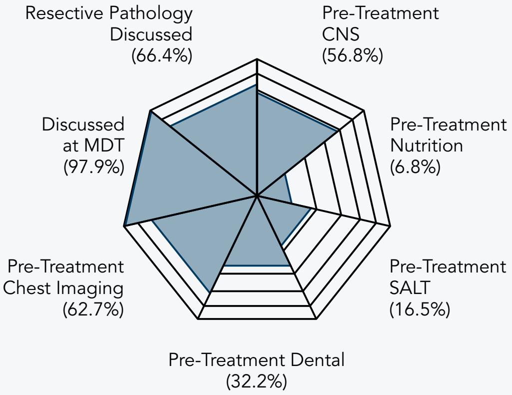
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.3	5.2	15.9	27.6	21.8	14.6	14.6		3.7
Pathway (7)	0.0	4.4	9.4	18.2	27.0	15.1	13.8	11.9	4.3

Arden



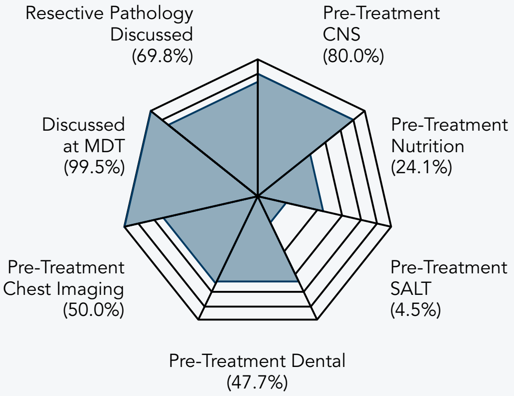
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	*	14.5	39.8	26.5	14.5	*		3.4
Pathway (7)	0.0	0.0	*	22.0	43.9	24.4	*	*	4.0

Avon, Somerset and Wiltshire



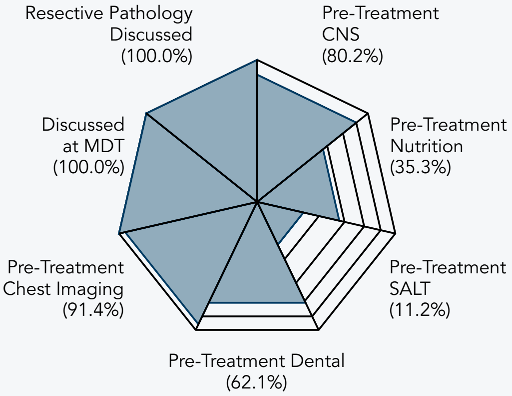
	0	1	2	3	4	5	6	7	Mean indicators
Pathway 6	0.8	19.1	24.6	27.5	17.8	10.2	0.0		2.7
Pathway 7	0.7	9.3	27.9	20.0	25.0	12.1	5.0	0.0	3.2

Central South Coast



	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	5.5	36.4	23.2	20.5	10.9	3.6		3.1
Pathway (7)	0.0	3.8	27.4	12.3	19.8	22.6	10.4	3.8	3.8

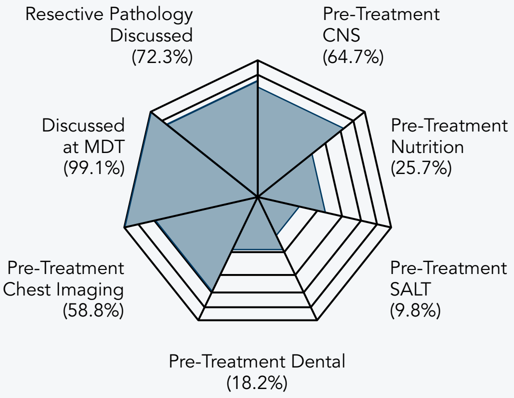
Dorset



	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	*	13.8	16.4	31.9	30.2	*		3.8
Pathway (7)	0.0	0.0	*	20.0	20.0	23.6	21.8	*	4.5

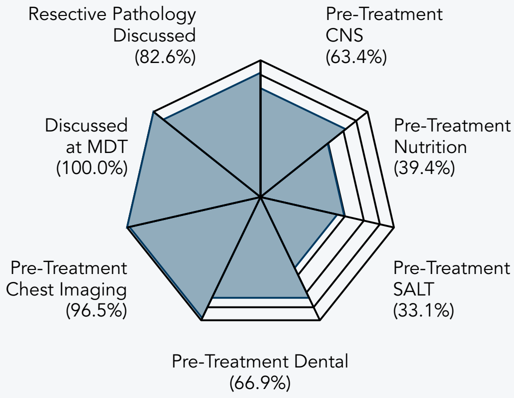
Pathway measures summary and percentage of pathway indicators met (by first treating network)

East Midlands



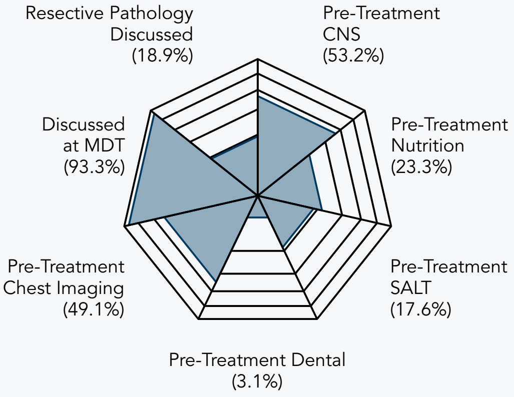
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.4	13.5	29.9	32.2	14.4	8.4	1.1		2.8
Pathway (7)	0.3	9.6	19.2	31.5	25.0	9.9	3.8	0.7	3.2

Essex



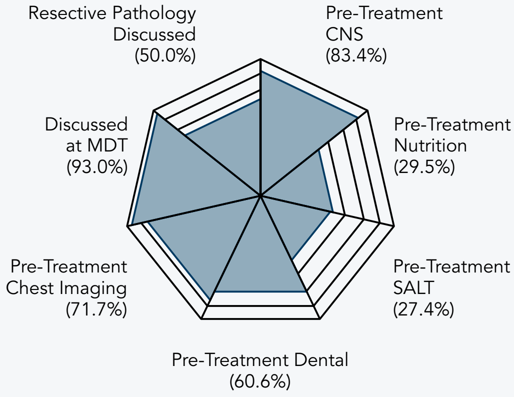
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	1.4	15.5	27.5	14.8	19.7	21.1		4.0
Pathway (7)	0.0	2.9	2.9	10.1	46.4	13.0	5.8	18.8	4.6

Greater Manchester and Cheshire



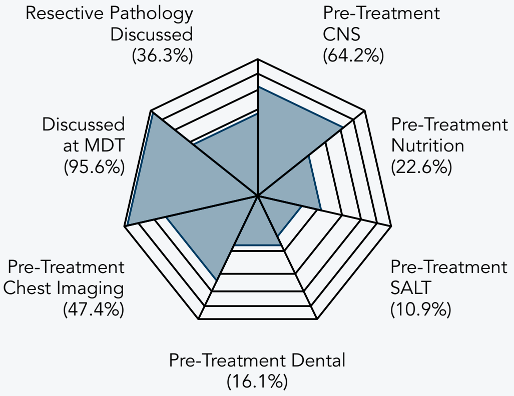
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	3.4	18.6	35.7	24.3	13.7	4.1	0.3		2.4
Pathway (7)	3.7	14.9	33.9	29.8	14.0	3.3	0.4	0.0	2.5

Greater Midlands



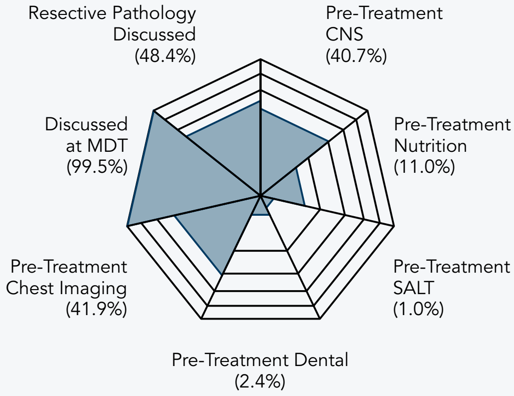
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	2.1	8.3	14.5	14.1	28.6	22.0	10.4		3.7
Pathway (7)	3.1	7.6	17.6	23.7	9.9	15.3	16.8	6.1	3.7

Humber and Yorkshire Coast



	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.7	18.2	33.6	26.3	14.6	5.1	1.5		2.6
Pathway (7)	0.0	19.8	33.0	28.6	11.0	6.6	1.1	0.0	2.5

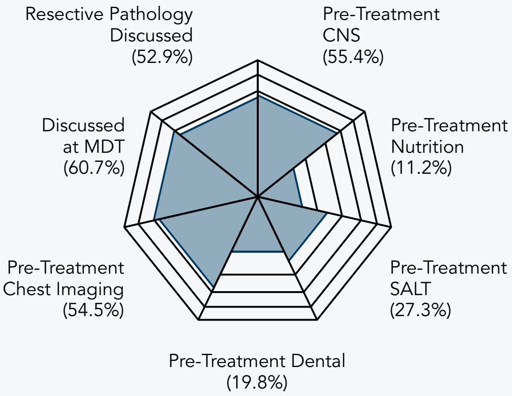
Kent and Medway



	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	50.7	13.4	27.3	6.7	1.9	0.0		2.0
Pathway (7)	0.0	46.6	7.6	11.9	18.6	11.9	3.4	0.0	2.5

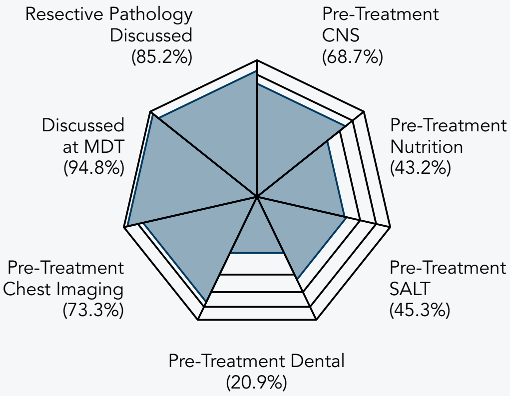
Pathway measures summary and percentage of pathway indicators met (by first treating network)

Lancashire and South Cumbria



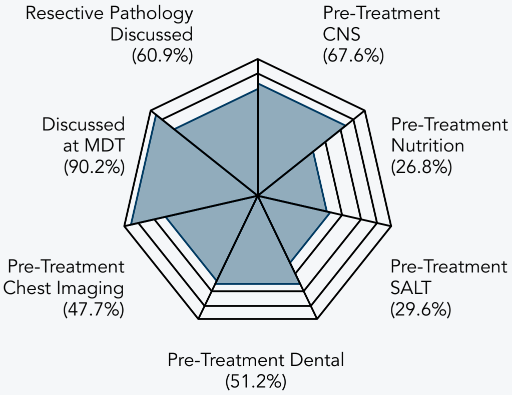
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	19.4	21.5	21.1	9.5	11.2	12.0	5.4		2.3
Pathway (7)	15.9	19.6	18.0	15.3	9.5	10.1	11.6	0.0	2.6

London Cancer Alliance



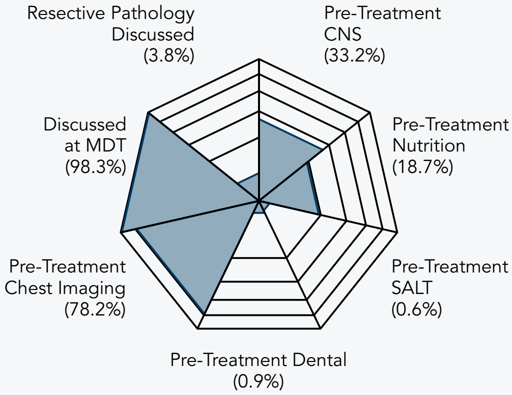
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.6	6.5	16.7	29.9	21.1	19.2	6.1		3.5
Pathway (7)	0.4	1.8	11.4	21.0	21.4	17.7	18.5	7.7	4.3

London Cancer



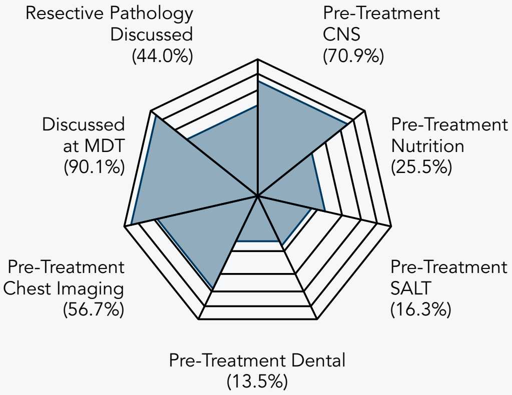
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	2.1	8.7	20.9	33.8	17.8	10.1	6.6		3.1
Pathway (7)	3.0	6.6	13.7	24.4	29.9	14.7	3.6	4.1	3.5

Merseyside and Cheshire



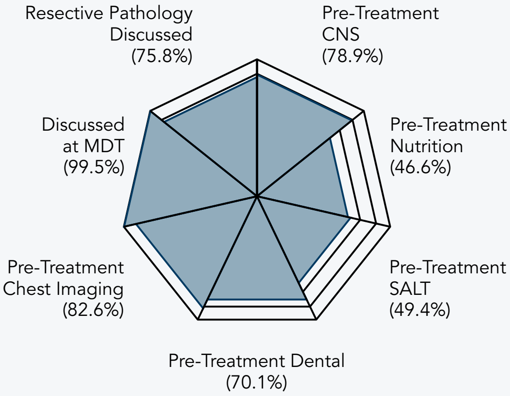
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	18.7	43.7	26.8	10.5	0.3	0.0		2.3
Pathway (7)	0.0	22.6	50.0	21.8	4.3	1.3	0.0	0.0	2.1

Mount Vernon



	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	2.8	14.2	22.7	35.5	17.7	6.4	0.7		2.7
Pathway (7)	1.3	10.7	21.3	34.7	24.0	4.0	4.0	0.0	3.0

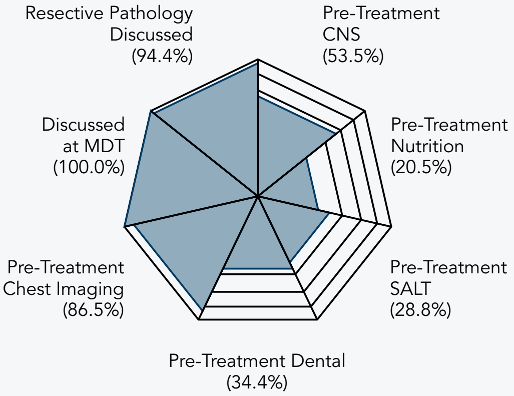
North of England



	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.2	2.1	10.0	14.8	24.6	27.4	20.9		4.3
Pathway (7)	0.4	2.0	6.3	16.0	23.8	23.0	17.2	11.3	4.6

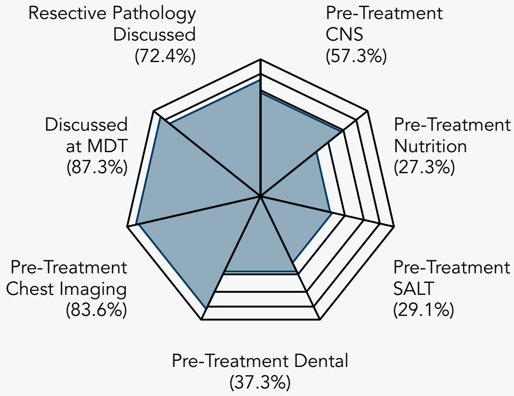
Pathway measures summary and percentage of pathway indicators met (by first treating network)

North Trent



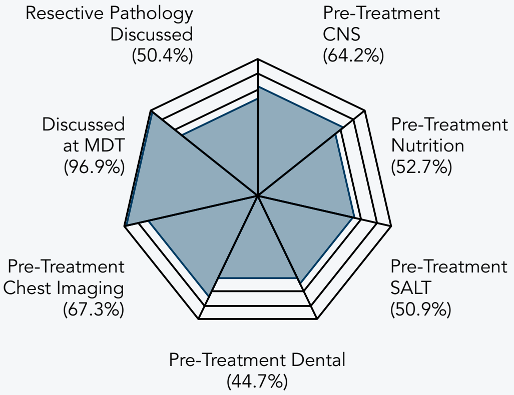
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	7.0	22.8	31.2	20.0	16.7	2.3		3.2
Pathway (7)	0.0	0.0	6.4	28.8	31.2	17.6	14.4	1.6	4.1

Pan Birmingham



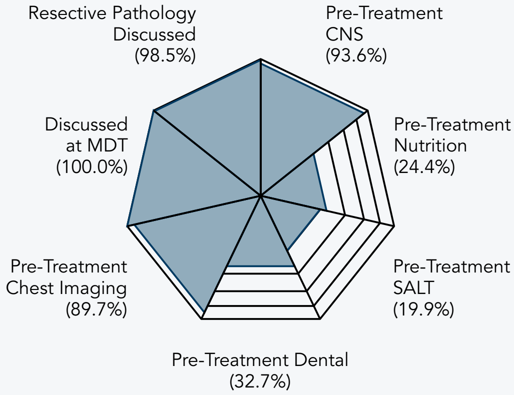
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	12.7	25.5	18.2	20.0	18.2	5.5		3.2
Pathway (7)	0.0	1.7	20.7	22.4	27.6	13.8	13.8	0.0	3.7

Peninsula



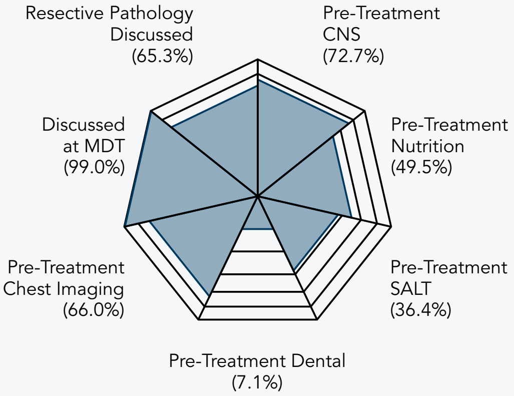
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.9	8.8	15.0	16.8	21.2	20.8	16.4		3.8
Pathway (7)	1.7	8.4	21.0	17.6	15.1	18.5	11.8	5.9	3.7

Surrey, West Sussex and Hants



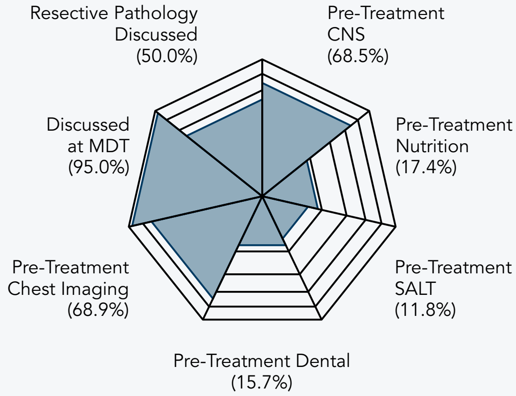
	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	5.8	3.8	41.7	25.0	20.5	3.2		3.6
Pathway (7)	0.0	0.0	13.4	10.4	58.2	16.4	1.5	0.0	3.8

Sussex



	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.0	16.2	9.1	22.2	32.3	20.2	0.0		3.3
Pathway (7)	0.0	9.5	12.2	20.3	20.3	29.7	8.1	0.0	3.7

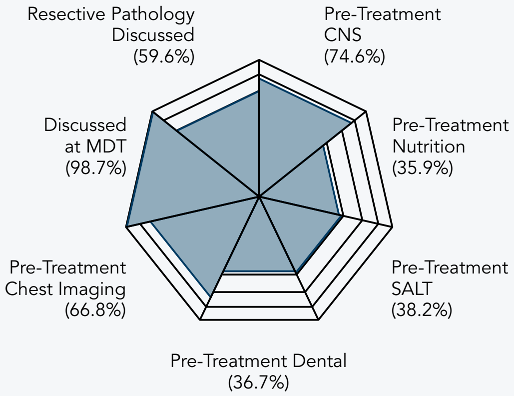
Thames Valley



	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	2.2	13.5	20.8	38.8	18.0	6.2	0.6		2.8
Pathway (7)	3.4	7.6	11.0	28.8	29.7	16.1	2.5	0.8	3.4

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

Yorkshire



	0	1	2	3	4	5	6	7	Mean indicators
Pathway (6)	0.8	12.3	15.4	21.0	19.2	19.7	11.5		3.5
Pathway (7)	0.9	15.1	13.7	20.8	16.0	15.1	11.8	6.6	3.6

Appendix 7

Eighth Annual Report cohort linked to RTDS.

The use of Intensity Modulated Radiotherapy (IMRT)

Intensity Modulated Radiotherapy is recommended for patients with head and neck cancer to improve targeting of tumour volumes and potentially reduce normal tissue damage. It positively impacts on reducing xerostomia (dry mouth) by limiting the dose of radiotherapy to salivary glands.The implementation of IMRT requires significant investment in hardware, software and staff training and is currently being rolled out across England and Wales.

The following charts provide a snapshot of the position in 2012 for IMRT rates by anatomical subsite and cancer network in the eighth Annual Report cohort. As expected there is geographic variability in the delivery of IMRT, with the highest achieving network attaining delivery of this advanced technique in 86.3 per cent of cases and the five lowest attaining networks delivering this in less than five per cent of cases. Overall 29.7 per cent of patients undergoing radiotherapy in England received radiotherapy by this technique.

The audit will look at these rates in subsequent cohorts to identify trends in the use of IMRT, as well as exploring in more depth treatment dosage and regimens.

Primary Site	Total diagnoses*	Radiotherapy delivered by IMRT	
		n	%
Larynx	793	172	21.7
Oral Cavity	583	135	23.2
Oropharynx	1144	435	38.0
Hypopharynx	182	51	28.0
Nasopharynx	81	41	50.6
Major Salivary Glands	138	38	27.5
Nasal Cavity and Sinus	110	32	29.1
Bone Tumours - Mandible and Maxilla	25	5	20.0
Total all sites	**3056**	**909**	**29.7**

*NB total cohort 3056 only includes cases that matched to RTDS so will be less than the eighth Annual Report cohort

Network Code	Radiotherapy Diagnosing Network (DAHNO)	Total diagnoses	Radiotherapy delivered by IMRT	
			n	%
N29	3 Counties	89	23	25.8
N37	Anglia	168	128	76.2
N12	Arden	53	0	0.0
N28	Avon, Somerset and Wiltshire	115	58	50.4
N31	Central South Coast	122	14	11.5
N27	Dorset	60	1	1.7
N39	East Midlands	209	53	25.4
N38	Essex	93	41	44.1
N02	Greater Manchester and Cheshire	132	8	6.1
N35	Greater Midlands	122	31	25.4
N07	Humber and Yorkshire Coast	65	48	73.8
N34	Kent and Medway	107	1	0.9
N01	Lancashire and South Cumbria	137	50	36.5
LC	London Cancer	128	25	19.5
N40	London Cancer Alliance	259	72	27.8
N03	Merseyside and Cheshire	183	158	86.3
N20	Mount Vernon	53	14	26.4
N36	North of England	208	41	19.7
N08	North Trent	86	8	9.3
N11	Pan Birmingham	105	5	4.8
N26	Peninsula	120	12	10.0
N32	Surrey West Sussex and Hants	104	24	23.1
N33	Sussex	61	13	21.3
N30	Thames Valley	117	5	4.3
N06	Yorkshire	159	75	47.2
England Total		**3055**	**908**	**29.7**

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 Cancer National Specialist Advisory Group (NSAG), Wales
http://www.wales.nhs.uk/sites3/home.cfm?orgid=322

5 National Cancer Intelligence Network
http://www.ncin.org.uk/home

6 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/

7 Public Health England
https://www.gov.uk/government/organisations/public-health-england

8 National Radiotherapy Dataset (RTDS)
http://www.canceruk.net/rtservices/rtds/

9 Intensity Modulated Radiotherapy (IMRT)
http://www.radiologyinfo.org/en/info.cfm?pg=imrt

10 Hospital Episode Statistics (HES)
http://www.hscic.gov.uk/hes

11 Cancer Network Information System Cymru (CaNISC)
http://www.wales.nhs.uk/nwis/page/52601

12 Cancer Patient Experience Survey 2013 National Report NHS ENGLAND
http://www.esds.ac.uk/doc/7400/mrdoc/pdf/7400_cpes_2013_national_report.pdf

13 BAHNO Standards 2009
www.bahno.org.uk/docs/BAHNO%20STANDARDS%20DOC09.pdf

14 National Institute for Clinical Excellence (NICE)
www.nice.org.uk

15 Guidance on Cancer Services - Improving Outcomes in Head and Neck Cancer – The Manual November 2004
http://guidance.nice.org.uk/CSGHN/Guidance/pdf/English

16 Manual for Cancer Services 2008: Head and Neck Measures
https://www.gov.uk/government/publications/manual-for-cancer-services-2008-head-and-neck-measures

17 National Standards for Head and Neck Cancer Services 2005
www.wales.nhs.uk/sites3/docmetadata.cfm?orgid=362&id=43257

18 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

19 National Cancer Patient Experience Survey Programme – 2010 National Survey Report.
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_122516

20 Cancer Patient Experience Survey 2011/12 – National Report
www.gov.uk/government/publications/second-national-cancer-patient-experience-survey

21 Public Health England, South East Knowledge and Intelligence Team
www.ociu.nhs.uk

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 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

24 New DAHNO System, National Head and Neck Cancer Audit
www.hscic.gov.uk/headandneck

25 NHS England
http://www.england.nhs.uk/

26 Everyone counts: Planning for patients 2013 - 2014
http://www.england.nhs.uk/everyonecounts/

27 NHS Choices
http://www.nhs.uk/Pages/HomePage.aspx

28 ENT-UK
https://entuk.org/

29 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

30 Guidance on Cancer Services – Improving Outcomes in Head and Neck Cancer – The Manual November 2004
http://guidance.nice.org.uk/CSGHN/Guidance/pdf/English

31 Medical Research Council
http://www.mrc.ac.uk/index.htm

32 SEND
http://www.cancerresearchuk.org/cancer-help/trials/a-trial-looking-at-two-surgical-treatments-for-early-mouth-cancer

33 Systemic Anti-Cancer Therapy (SACT) Dataset (Chemotherapy)
http://www.ncin.org.uk/collecting_and_using_data/data_collection/chemotherapy.aspx

34 The Institute of Cancer Research – ART DECO Trial
http://www.icr.ac.uk/research/research_divisions/Clinical_Studies/Clinical_Trials/Clinical_Trials_Disease/CT_Disease_Headandneck/art_deco/22032.shtml

35 www.evidence.nhs.uk

36 Improving Outcomes: A strategy for cancer.
http://www.nhs.uk/NHSEngland/NSF/Pages/Cancer.aspx

37 National Awareness and Early Diagnosis Initiative.
http://www.nhs.uk/NHSEngland/NSF/Pages/NAEDI.aspx

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