

# Are variations in radiotherapy treatment rates in the DAHNO audit dataset real or related to data completeness?

AM Watters<sup>1</sup>, MF Roche<sup>1</sup>, R Wight<sup>2</sup>

<sup>1</sup>Knowledge and Intelligence Team (South East); <sup>2</sup>Chair of the Head and Neck Cancers Site Specific Clinical Reference Group

## Introduction

Radiotherapy is a key part of many head and neck cancer treatment plans. In the latest report from the National Head and Neck Cancer Audit (2012), fewer patients were reported having radiotherapy than would be expected in clinical practice and there was considerable variation between cancer networks. This may reflect less complete recording of radiotherapy treatments in the audit, overall and particularly by some networks.

The DAHNO (Data for Head and Neck Oncology) system supports the National Head and Neck Cancer Audit.

## Methods

Cancer records included in the latest DAHNO dataset were matched to treatment records included in the Radiotherapy Dataset (RTDS). A treatment on RTDS was matched to a tumour on DAHNO, where the treatment start date was between 30 days before and up to six months after the diagnosis date. Where more than one radiotherapy treatment matched to a tumour, the earliest treatment only was selected.

The proportion of DAHNO cases that had no radiotherapy record on DAHNO but did have a record on RTDS was then calculated, and analysed by tumour group and cancer network.

## Results

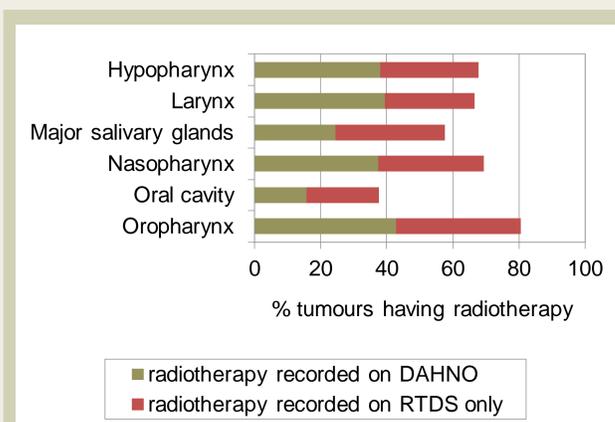
Of the 6443 tumours recorded in DAHNO and diagnosed in the period November 2010 to October 2011, 2085 or 32.4% had radiotherapy treatment recorded. When matched to the RTDS, an additional 1891 tumours, 29.3%, were found to have had radiotherapy, giving a total of 3976 tumours having had radiotherapy treatment, or 61.7%. (Figure 1).

Figure 2 shows the amount of radiotherapy recorded from the two data sources, DAHNO and RTDS, for each tumour site group. All tumour sites gained additional treatment information from RTDS. Figure 3, compares the proportions of additional radiotherapy found from RTDS for each tumour site group, with the average for all head and neck sites. Oropharynx cancers have a significantly higher level of radiotherapy from RTDS at 37.7% compared to the average of 29.3%. Oral cavity cancers have a significantly lower level at 22.0%.

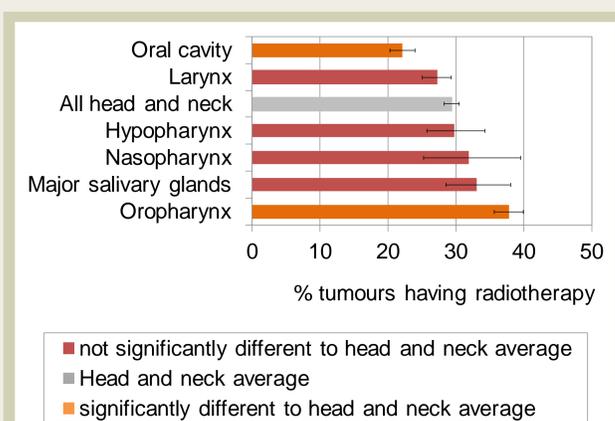
Figure 4 shows the amount of radiotherapy recorded from the two data sources, for each cancer network in England. All cancer networks gained additional treatment information from RTDS, from South West London with 11.6% to Greater Manchester and Cheshire with 52.0%. Figure 5 compares the proportions of additional radiotherapy found from RTDS for each cancer network, with the England average.

	Number of tumours	%
Radiotherapy recorded on DAHNO	2085	32.4
Radiotherapy recorded on RTDS dataset only	1891	29.3
No radiotherapy recorded in either dataset	2467	38.3
Total tumours on DAHNO	6443	100.0
Radiotherapy recorded on both DAHNO and RTDS	1922	29.9
Radiotherapy recorded on DAHNO but not on RTDS	163	2.5
Total radiotherapy recorded on DAHNO	2085	32.4

**Figure.1** Proportion of head and neck cancers recorded in DAHNO, diagnosed in the period November 2010 to October 2011 and having radiotherapy treatment, by data source.



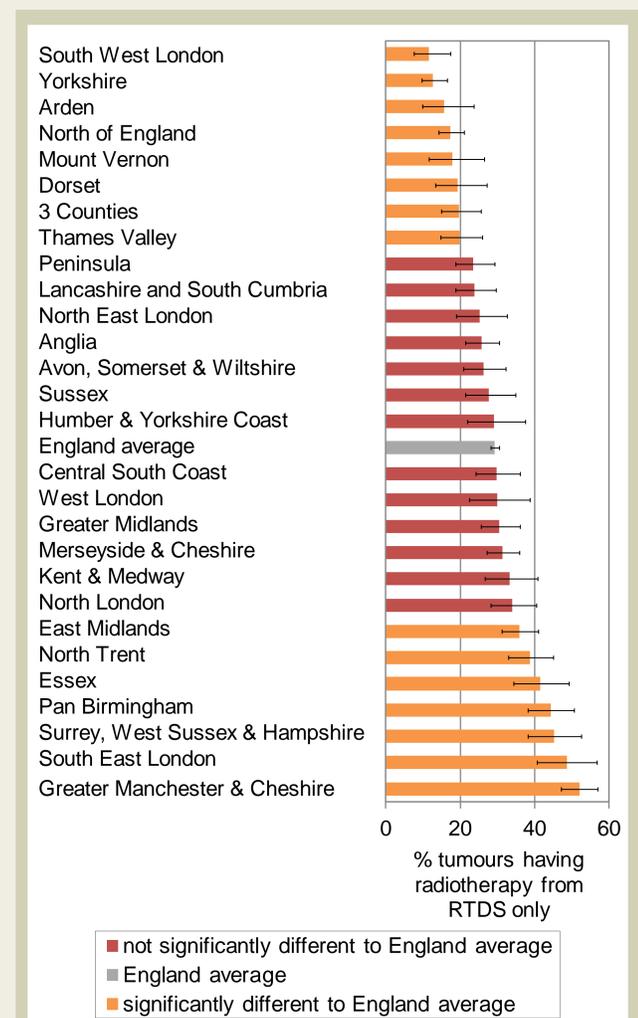
**Figure.2** Proportion of head and neck cancers recorded in DAHNO having radiotherapy treatment, by tumour site group and data source.



**Figure.3** Proportion of head and neck cancers recorded in DAHNO where radiotherapy was recorded on RTDS only, by tumour site group (with 95% confidence intervals).



**Figure.4** Proportion of head and neck cancers recorded in DAHNO having radiotherapy treatment, by cancer network and data source.



**Figure.5** Proportion of head and neck cancers recorded in DAHNO where radiotherapy was recorded on RTDS only, by cancer network (with 95% confidence intervals).

## Conclusions

There is an apparent under reporting of radiotherapy treatment in DAHNO of nearly 30% and considerable variation in the level of under reporting by cancer network. This makes it difficult to interpret the significance of variations in treatment patterns between cancer networks. In future years, routine input to the DAHNO audit from the RTDS should improve the level of recording of radiotherapy treatment.