



Non-Melanoma Skin Cancer: Estimates of cases

November 2010

Introduction

Recording of first cases of non-melanoma skin cancer is known to be variable across the English Cancer Registries. The range of recorded age-standardised incidence rates (DSRs) in Local or Unitary Authorities is large, from five to 260 cases per 100,000 people. However, this range is itself split into two distinct groups: rates up to around 50 cases per 100,000; then a further group with rates starting at 70 cases per 100,000 people. There is a clear geographical grouping when looking at the 98 areas which have distinctly low DSRs. All of the 70 Local Authorities in the Thames Cancer Registry are in this group, as are 26 of the 47 Local Authorities in the Eastern Cancer Registration & Information Centre. In addition, two of the 51 Local Authorities in the South West Cancer Intelligence Service are in this group of areas.

It appears that in these areas there is an under-recording of non-melanoma skin cancer, compared to other registries in England. If there is a consistent ratio of non-melanoma skin cancer to malignant melanoma in other registries, it could be used to estimate the true burden of non-melanoma skin cancer in the areas which show a low rate.

Methodology

Age-standardised rates and total counts of non-melanoma skin cancer, and malignant melanoma are taken from National Centre for Health Outcomes Development (NCHOD) data. All-age rates for the 2004-06 three-year period are used. The West Midlands Cancer Intelligence Unit and the South West Cancer Intelligence Service are regarded as having good quality collection of first cases of non-melanoma skin cancer, so they are used to calculate the ratios of recorded rates and counts of non-melanoma skin cancer to malignant melanoma. Data is not available from NCHOD for cancer registries, so analysis is performed for the South West Government Office Region (GOR) and the West Midlands GOR.

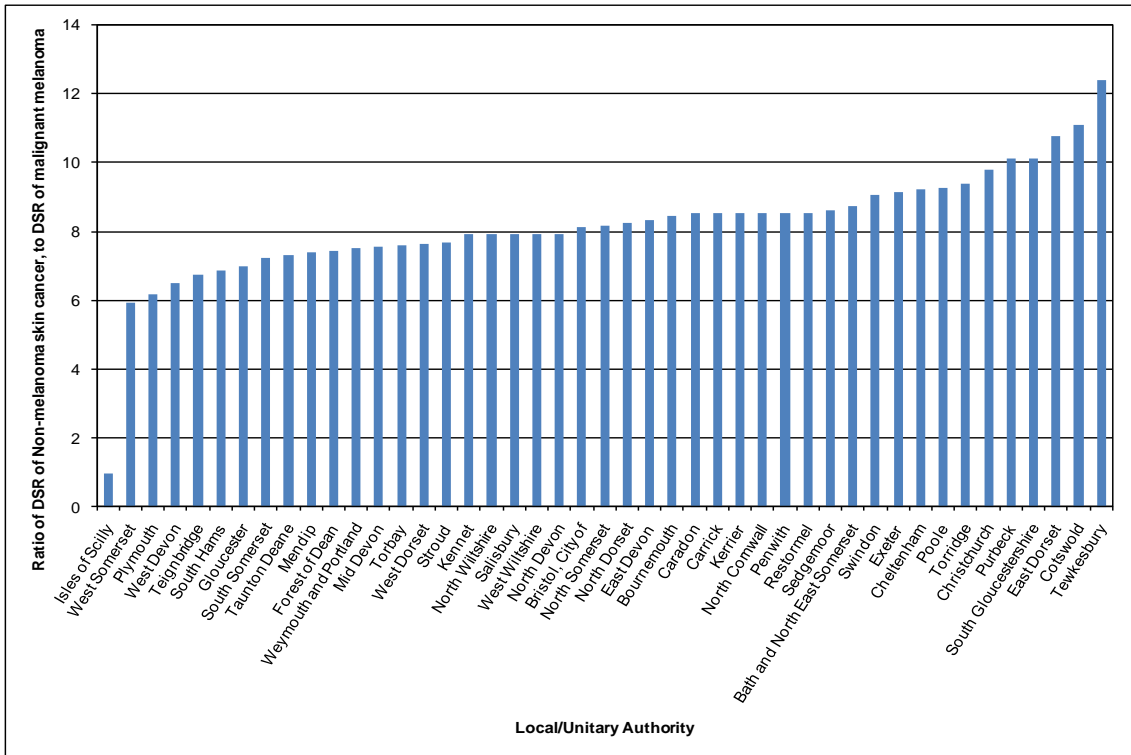
Data has been extracted from the United Kingdom Association of Cancer Registries (UKACR) national dataset for Basal Cell Carcinoma (BCC) and Squamous Cell Carcinoma (SCC). Age-standardised rates and total counts are calculated for the 2004-06 three-year period, for the South West GOR and the West Midlands GOR. These rates are used to estimate the fraction of non-melanoma skin cancer which is BCC.

Results

Ratios of the rates of non-melanoma skin cancer to malignant melanoma are variable, but do indicate a range of values which cover most areas. In the South West, 36 of the 45 Local Authorities have a rate-ratio of seven to 10 (Figure 1). This is similar in the West Midlands, where six out of 30 Local Authorities have a rate-ratio between seven and 10 (Figure 2).

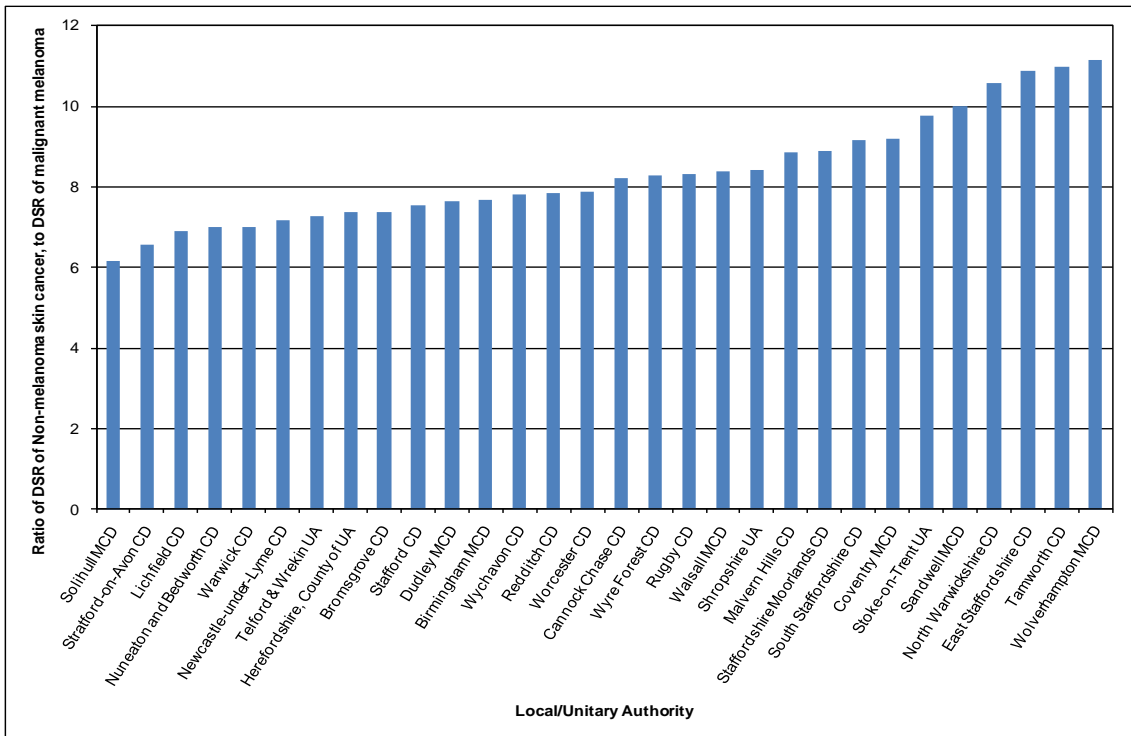
The ratio calculations are repeated for numbers of cases, rather than age-standardised rates, with consistent results (Figures 3 and 4). There are differences in the population age, deprivation and ethnic minority populations between the South West and the West Midlands, so the consistent ratios produced suggest that it is reasonable to use the ratio of non-melanoma skin cancer to malignant melanoma to estimate numbers of new non-melanoma skin cancers, even where there are population differences.

Figure 1: Ratio of directly age-standardised rate of non-melanoma skin cancer to directly age-standardised rate of malignant melanoma, in the South West, 2004-06



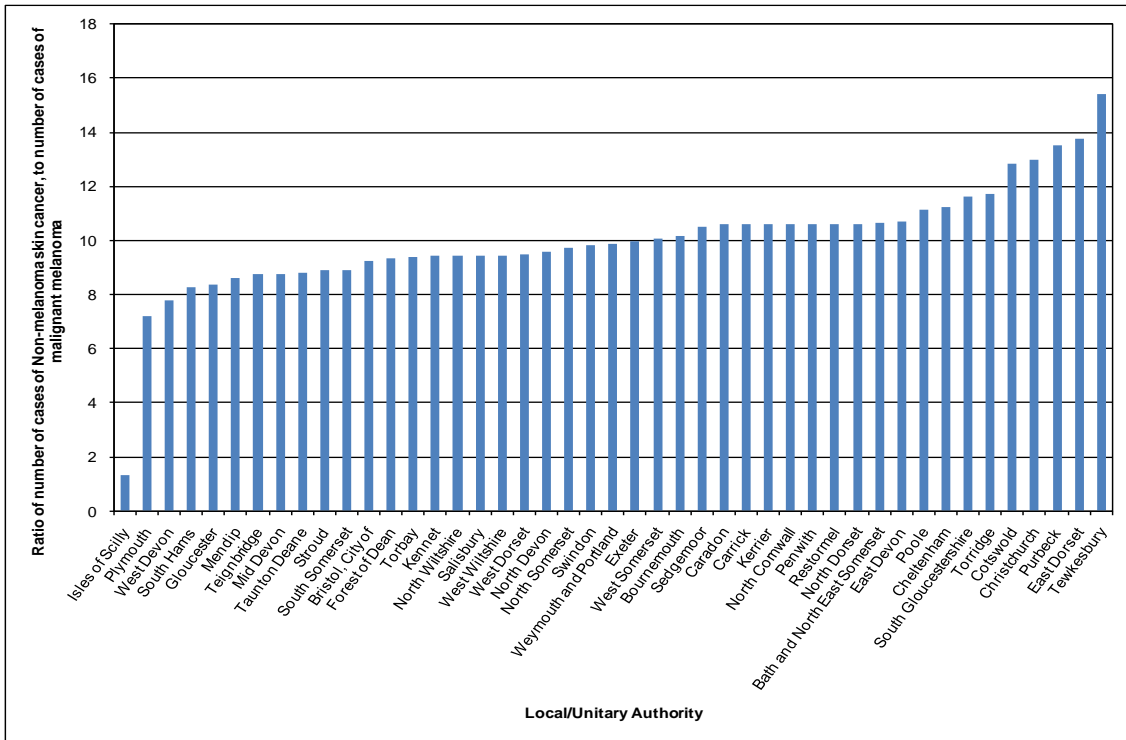
Source: SWCIS from NCHOD

Figure 2: Ratio of directly age-standardised rate of non-melanoma skin cancer to directly age-standardised rate of malignant melanoma, in the West Midlands, 2004-06



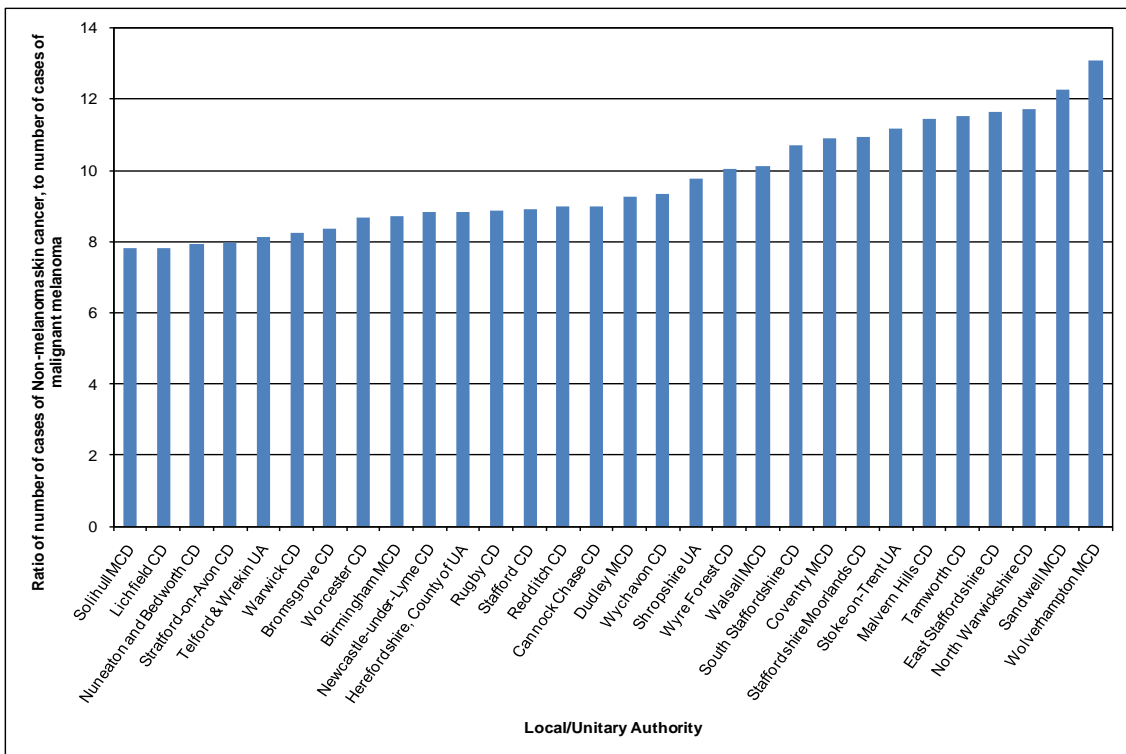
Source: SWCIS from NCHOD

Figure 3: Ratio of number of cases of non-melanoma skin cancer to number of cases of malignant melanoma, in the South West, 2004-06



Source: SWCIS from NCHOD

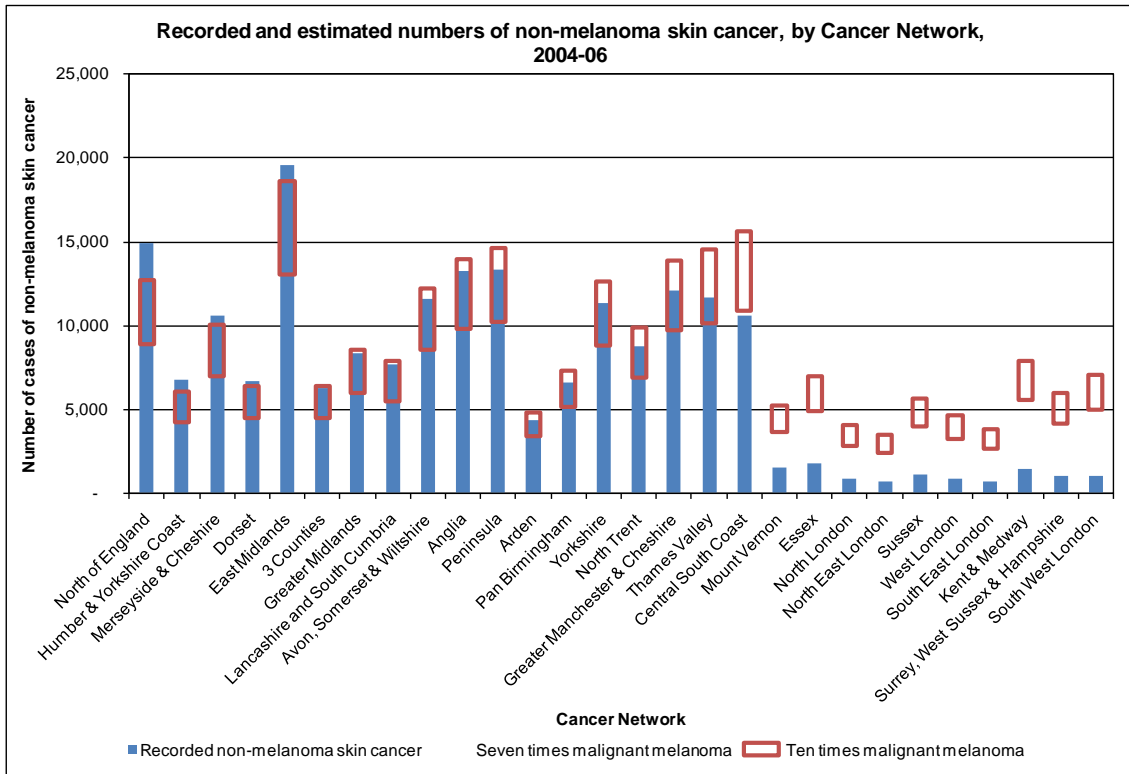
Figure 4: Ratio of number of cases of non-melanoma skin cancer to number of cases of malignant melanoma, in the West Midlands, 2004-06



Source: SWCIS from NCHOD

NCHOD data on incidence of malignant melanoma for PCTs and Cancer Networks is taken and multiplied by seven and 10 to give an estimated range for incidence of non-melanoma skin cancer. These estimates are plotted against the recorded age-standardised rates of non-melanoma skin cancer, and shown in figures 5 and 6.

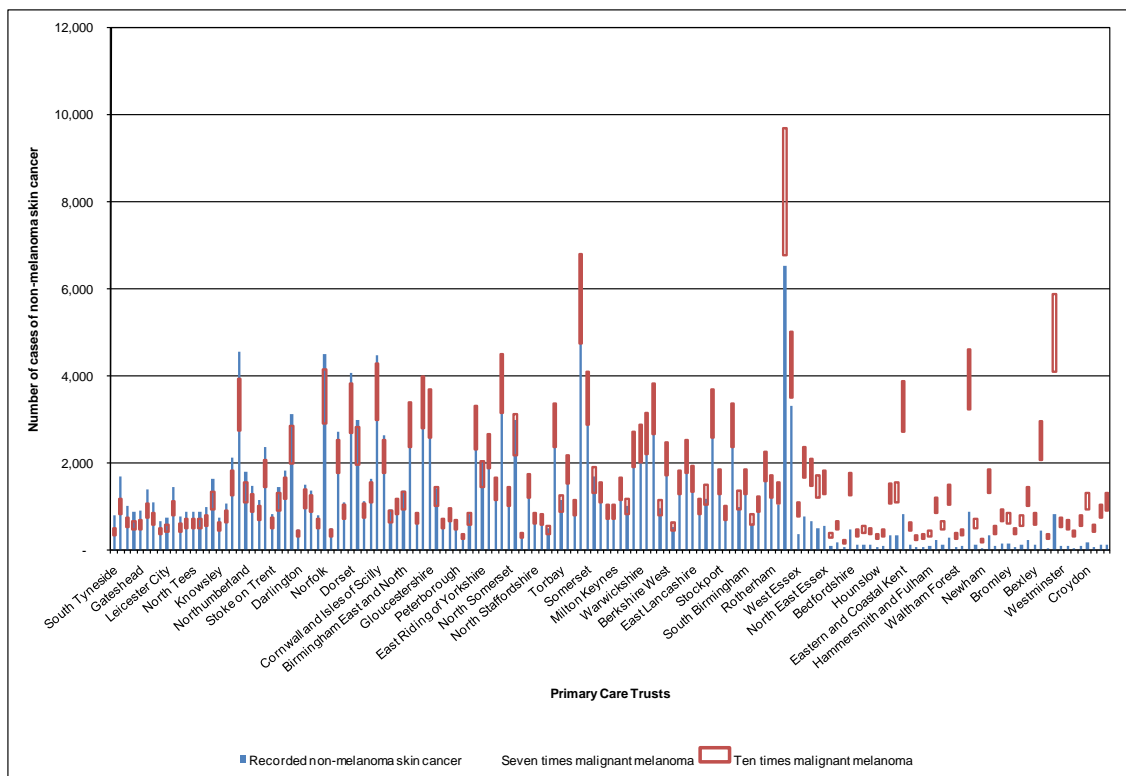
Figure 5: Incidence of non-melanoma skin cancer (number of registrations), and expected range based on incidence of malignant melanoma, Cancer Networks 2004-06



Source: SWCIS from NCHOD

The expected difference is clear for PCTs and Cancer Networks in the East of England, London and the South East. These regions are predominantly covered by the Thames Cancer Registry and the Eastern Cancer Registration & Information Centre. In other areas the estimates are consistent with measured data.

Figure 6: Incidence of non-melanoma skin cancer (number of registrations), and expected range based on incidence of malignant melanoma, PCTs 2004-06



Source: SWCIS from NCHOD

The Local Authorities which fall into the group of low rates account for a recorded average of 3,981 cases per year of non-melanoma skin cancer, in 2004-06. If the recorded numbers of malignant melanoma are scaled by seven and 10, an estimated number of non-melanoma skin cancer is produced, and a difference can be calculated. The estimated number of new non-melanoma skin cancers in the 98 Local Authorities is 13,025 to 18,607 per year, a difference of 9,043 to 14,625 extra cases per year. If this difference is added to the recorded England count of incidence, an estimate of 72,788 to 78,370 new cases of non-melanoma skin cancer per year is produced, compared to a recorded value of 63,744 new cases per year on average, for 2004-06.

Comparison of the total cases and age-standardised rates of Basal Cell Carcinoma (BCC) to those of Squamous Cell Carcinoma (SCC), for the Local Authorities in the South West and West Midlands, indicates a ratio of BCC to SCC of between three and five to one. Using these values it can be estimated that of the extra cases, 6,782 to 12,139 per year are BCC and 2,260 to 3,656 per year are SCC.

Summary

The under-recording of new cases of non-melanoma skin cancer is concentrated in London and the south east of England, in the areas covered by the Thames Cancer Registry and the Eastern Cancer Registration & Information Centre.

Comparing the ratio of rates of incidence of non-melanoma skin cancer, to rates of malignant melanoma, in other parts of England, indicates that rates of non-melanoma skin cancer are generally seven to 10 times higher. This ratio is used to estimate the true number of new non-melanoma skin cancers in the Local Authorities which appear to have very low rates. It is estimated that there are 9,043 to 14,625 extra cases per year which go unrecorded. This would

increase the recorded England incidence from 63,744 new cases per year on average for 2004-06, to 72,788 to 78,370 new cases of non-melanoma skin cancer per year.

Further information

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About the South West Public Health Observatory

The South West Public Health Observatory (SWPHO) is part of a network of regional public health observatories in the UK (funded by the Department of Health) and Ireland. These were established in 2000 as outlined in the Government White Paper *Saving lives: our healthier nation*. Key tasks include: monitoring health and disease trends; identifying gaps in health information; advising on methods for health and health impact assessment; drawing together information from different sources; and carrying out projects on particular health issues.

The SWPHO incorporates the National Drug Treatment Monitoring System South West (NDTMS-SW), and in April 2005 merged with the South West Cancer Intelligence Service (SWCIS). The SWPHO works in partnership with a wide range of agencies, networks and organisations regionally and nationally to provide 'a seamless public health intelligence service' for the South West.

For more information about the SWPHO and its partner organisations, please visit www.swpho.nhs.uk



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