

Data Quality Report 2013

National Cancer Data Repository 2010 Data

Skin Cancer SSCRG



Introduction

This report has been produced as collaboration between the South West Public Health Observatory (SWPHO) and the Skin Site Specific Cancer Reference Group (SSCRG) of the National Cancer Intelligence Network (NCIN).

The skin SSCRG wished to ascertain the completeness of staging information held in the National Cancer Data Repository (NCDR) for skin malignancies (ICD10 C43, C44).

As recommended by the United Kingdom Association of Cancer Registries, cancer registries have in recent years based one of their performance indicators on the completeness of reporting of Clark's level for melanoma. However it is now acknowledged that Clark's level cannot be considered as a staging data item in its own right and following advice from the skin SSCRG the American Joint Committee on Cancer staging system will apply for skin cancer henceforth (malignant melanoma, non melanoma skin cancer (squamous cell carcinoma, basal cell carcinoma, and merkel cell). Breslow thickness, histological evidence of ulceration, mitoses, microsatellite, number of metastatic nodes, LDH level and metastasis to other organs will all be factors used in the final AJCC staging of malignant melanoma, representing complex data collection. However this year's data quality report will remain based on the UKACR rules in place in 2008-2010 as 2011 data are not yet available.

Method

Records of skin cancers (ICD10 C43, C44) in each Cancer Registry in England for the three most recent diagnosis years available, 2008-2010, were analysed. In situ skin cancers are not included. Data associated with a morphology code for melanoma were extracted excluding 8000 and 8010 which are not specific morphology codes (table1)

Pathological, clinical and integrated* staging fields (T, N and M separately and overall TNM stage grouping) were extracted.

* Integrated stage is a hybrid of pathological and clinical T, N and M values. Generally, the T and N values will come from the pathology and the M value will be attributed clinically.

Additional fields were extracted relating to Clark's Level, Breslow Thickness, histology (in term of morphology code used), ethnicity and treatment modality flags indicating whether or not the patient had any of the following treatment modalities; surgery, chemotherapy and radiotherapy. All definitions and valid entries are listed in Table 1.

Table 2, the performance of the different registries shows the percentage valid in each field represents the number of tumours with a valid entry as a proportion of all tumours of that type in a given year at a given registry.

Table 1: Valid entries for NCDR 2008-2010 fields analysed

	Field	Valid Entries
Pathological Stage	T	0-4
	N	0-2 (C43), 0-1 (C44)
	M	0-1
	TNM	I-IV
Clinical Stage	T	0-4
	N	0-2 (C43), 0-1 (C44)
	M	0-1
	TNM	I-IV
Other Non-Prognostic	Clark	2-5
	Breslow	> 0
Histology	All	Valid five character codes
	Specific	As above excluding '8000' (neoplasm), '8010' (carcinoma)
Ethnicity*	All	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S, X, Z
	Specific	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S
Treatment Flag	Surgery	Y, N
	Chemo	Y, N
	Radio	Y, N

Source: South West Public Health Observatory

Results

Table 2: Percentage of valid staging information for melanoma (C43) in English Registry Areas, 2008-2010

Cancer Registry	Year	Cases	Valid Pathological Stage				Valid Clinical Stage				Integrated Stage				Overall Stage
			T	N	M	TNM	T	N	M	TNM	T	N	M	TNM	
EASTERN CANCER REGISTRATION & INFORMATION CENTRE	2008	1,304	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.8	0.0	1.2	94.5	0.0
	2009	1,265	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	91.8	0.0	1.7	95.2	0.0
	2010	1,253	21.5	0.1	0.1	0.1	0.0	0.1	0.0	0.0	90.8	0.1	2.4	96.3	0.0
NORTH WEST CANCER INTELLIGENCE SERVICE	2008	1,203	22.5	1.2	0.8	0.6	0.0	1.2	0.0	0.0	32.6	1.2	2.7	1.5	0.0
	2009	1,339	24.3	1.0	2.7	2.6	0.4	1.0	0.0	0.0	27.6	1.0	4.8	3.4	0.0
	2010	1,515	38.8	1.9	1.3	1.1	0.0	1.9	0.1	0.1	65.0	1.9	25.4	12.2	0.0
NORTHERN & YORKSHIRE CANCER REGISTRY & INFORMATION SERVICE	2008	1,151	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.2
	2009	1,224	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	87.3
	2010	1,304	6.7	0.2	0.1	0.1	0.2	0.2	0.0	0.0	1.3	0.2	0.2	0.8	82.4
OXFORD CANCER INTELLIGENCE UNIT	2008	640	1.4	0.3	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0
	2009	623	18.9	0.6	0.3	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0
	2010	642	31.5	1.1	0.5	0.0	3.3	1.1	0.2	0.0	0.0	1.1	0.0	0.0	0.0
SOUTH WEST CANCER INTELLIGENCE SERVICE	2008	1,954	89.0	5.7	4.3	0.0	0.1	5.7	0.8	0.0	0.0	5.7	0.0	0.0	0.0
	2009	1,870	89.7	7.7	3.6	0.0	1.4	7.7	2.6	0.0	0.0	7.7	0.0	0.0	0.0
	2010	2,092	90.5	9.2	5.8	0.0	2.3	9.2	6.2	0.0	0.0	9.2	0.0	0.0	0.0
THAMES CANCER REGISTRY	2008	1,808	26.1	1.3	0.7	0.0	0.6	1.3	0.1	0.0	0.0	1.3	0.0	0.0	70.9
	2009	1,871	29.4	1.7	0.4	0.0	0.9	1.7	0.2	0.0	0.0	1.7	0.0	0.0	61.5
	2010	1,893	47.7	2.5	0.5	0.0	2.0	2.5	0.3	0.0	0.0	2.5	0.0	0.0	50.5
TRENT CANCER REGISTRY	2008	950	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.0	3.3	0.0	0.1	87.2	0.0
	2009	884	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	2.6	0.1	0.1	81.2	0.0
	2010	1,008	3.7	0.4	0.1	0.6	0.0	0.4	0.0	0.0	15.7	0.4	0.1	45.7	0.0
WEST MIDLANDS CANCER INTELLIGENCE UNIT	2008	904	95.8	1.3	1.4	1.3	0.0	1.3	2.4	0.1	95.8	1.3	3.9	43.4	0.0
	2009	932	95.7	2.2	0.8	0.8	0.0	2.2	1.3	0.0	95.7	2.2	1.8	42.8	0.0
	2010	949	95.2	5.0	3.2	5.5	0.1	5.0	2.7	0.7	95.2	5.0	5.7	44.6	0.0

Source: South West Public Health Observatory from NCDR

Table 3: Percentage of valid staging information for non-melanoma skin cancer (C44) in English Registry Areas, 2008-2010

Cancer Registry	Year	Cases	Valid Pathological Stage				Valid Clinical Stage				Integrated Stage				Overall Stage
			T	N	M	TNM	T	N	M	TNM	T	N	M	TNM	
EASTERN CANCER REGISTRATION & INFORMATION CENTRE	2008	14,234	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0
	2009	9,408	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.1	0.0	0.0
	2010	5,706	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0
NORTH WEST CANCER INTELLIGENCE SERVICE	2008	10,718	9.8	0.1	0.1	0.0	0.0	0.1	0.0	0.0	10.5	0.1	0.5	0.0	0.0
	2009	12,130	1.7	0.1	0.1	0.2	0.0	0.1	0.0	0.0	2.7	0.1	0.9	0.2	0.0
	2010	11,796	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	2.6	0.4	0.0
NORTHERN & YORKSHIRE CANCER REGISTRY & INFORMATION SERVICE	2008	11,699	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2009	11,362	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2010	11,730	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
OXFORD CANCER INTELLIGENCE UNIT	2008	5,212	0.7	6.5	6.5	0.0	0.0	6.5	0.0	0.0	0.0	6.5	0.0	0.0	0.0
	2009	5,409	10.5	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
	2010	5,326	12.9	0.1	0.0	0.0	0.0	0.7	0.1	0.0	0.0	0.1	0.0	0.0	0.0
SOUTH WEST CANCER INTELLIGENCE SERVICE	2008	18,375	2.9	0.2	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0
	2009	19,918	1.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
	2010	15,661	4.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
THAMES CANCER REGISTRY	2008	11,567	2.2	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	20.2
	2009	12,227	3.1	0.2	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.2	0.0	0.0	17.1
	2010	13,940	4.7	0.2	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.2	0.0	0.0	12.5
TRENT CANCER REGISTRY	2008	9,389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	2009	8,567	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2	0.0
	2010	9,615	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	2.1	0.0
WEST MIDLANDS CANCER INTELLIGENCE UNIT	2008	8,765	10.9	0.1	0.1	0.0	0.1	0.1	0.1	0.0	10.9	0.1	0.1	0.0	0.0
	2009	8,655	12.6	0.2	0.1	0.0	0.2	0.2	0.1	0.0	12.7	0.2	0.1	0.0	0.0
	2010	9,369	12.4	0.2	0.1	0.0	0.3	0.2	0.2	0.0	12.6	0.2	0.3	0.0	0.0

Source: South West Public Health Observatory from NCDR

Table 4: Percentage of valid histological, ethnicity and treatment information for melanoma (C43) in English Registry Areas, 2008-2010

Cancer Registry	Year	Cases	Other Prognostic		Valid Histology		Valid Ethnicity		Valid Treatment Flag		
			Clark	Breslow	All	Specific	All	Specific	Surgery	Chemo	Radio
EASTERN CANCER REGISTRATION & INFORMATION CENTRE	2008	1,304	83.6	90.8	100	100	98.5	40.0	96.6	0.8	0.6
	2009	1,265	79.4	92.7	100	100	96.4	56.4	96.7	1.0	0.9
	2010	1,253	79.7	93.6	99.9	99.9	82.3	65.3	98.0	1.4	0.8
NORTH WEST CANCER INTELLIGENCE SERVICE	2008	1,203	68.9	81.2	97.3	97.3	80.1	76.1	89.9	1.1	0.5
	2009	1,339	62.8	71.6	98.6	98.6	83.5	80.3	85.5	1.8	2.5
	2010	1,515	76.7	84.7	99.5	99.5	27.1	16.7	82.2	1.5	1.9
NORTHERN & YORKSHIRE CANCER REGISTRY & INFORMATION SERVICE	2008	1,151	95.1	49.1	99.8	99.8	99.8	61.6	99.8	99.8	99.8
	2009	1,224	91.8	46.7	99.9	99.9	99.9	50.3	99.9	99.9	99.9
	2010	1,304	87.9	47.2	99.9	99.9	99.9	74.9	99.9	99.9	99.9
OXFORD CANCER INTELLIGENCE UNIT	2008	640	53.4	90.3	99.1	98.9	99.1	67.7	99.1	99.1	99.1
	2009	623	84.0	87.2	98.9	98.9	98.9	68.7	98.9	98.9	98.9
	2010	642	89.4	91.7	99.1	99.1	99.1	61.8	99.1	99.1	99.1
SOUTH WEST CANCER INTELLIGENCE SERVICE	2008	1,954	79.7	85.1	99.5	99.5	99.5	71.4	99.5	99.5	99.5
	2009	1,870	82.3	87.2	99.6	99.6	99.6	71.1	99.6	99.6	99.6
	2010	2,092	85.7	88.5	98.4	98.3	98.4	68.9	98.4	98.4	98.4
THAMES CANCER REGISTRY	2008	1,808	5.8	71.5	99.8	99.8	99.8	59.1	99.8	99.8	99.8
	2009	1,871	6.6	66.9	99.7	99.7	99.7	32.4	99.7	99.7	99.7
	2010	1,893	2.0	80.3	99.8	99.8	99.8	17.4	99.8	99.8	99.8
TRENT CANCER REGISTRY	2008	950	4.5	6.4	99.6	98.7	99.2	72.7	58.2	1.7	0.4
	2009	884	2.6	83.9	99.6	99.4	98.9	74.9	48.9	1.0	0.8
	2010	1,008	17.5	85.4	99.0	98.9	98.3	76.3	50.3	0.3	0.5
WEST MIDLANDS CANCER INTELLIGENCE UNIT	2008	904	93.4	95.6	99.9	99.9	71.6	71.6	98.1	0.9	1.3
	2009	932	92.5	95.6	99.8	99.8	72.8	72.8	97.5	1.0	1.6
	2010	949	91.7	93.9	100	98.6	74.5	74.5	96.7	1.6	1.5

Source: South West Public Health Observatory from NCDR

Table 5: Percentage of valid histological, ethnicity and treatment information for non-melanoma skin cancer (C44) in English Registry Areas, 2008-2010

Cancer Registry	Year	Cases	Other Prognostic		Valid Histology		Valid Ethnicity		Valid Treatment Flag		
			Clark	Breslow	All	Specific	All	Specific	Surgery	Chemo	Radio
EASTERN CANCER REGISTRATION & INFORMATION CENTRE	2008	14,234	0.0	0.0	99.9	99.8	96.4	25.3	94.7	0.1	0.3
	2009	9,408	0.6	0.3	100.0	99.7	91.1	45.1	94.9	0.1	0.6
	2010	5,706	4.1	2.5	99.9	99.4	93.4	73.6	95.5	0.3	1.0
NORTH WEST CANCER INTELLIGENCE SERVICE	2008	10,718	0.0	8.6	98.9	98.3	63.7	59.1	37.5	0.1	0.9
	2009	12,130	0.1	0.9	97.7	94.0	62.1	58.0	16.0	0.3	1.5
	2010	11,796	2.9	2.1	99.4	99.2	17.6	14.2	2.5	0.1	1.7
NORTHERN & YORKSHIRE CANCER REGISTRY & INFORMATION SERVICE	2008	11,699	0.0	0.0	99.9	99.8	99.9	13.5	99.9	99.9	99.9
	2009	11,362	0.0	0.0	99.9	99.6	99.9	14.7	99.9	99.9	99.9
	2010	11,730	0.0	0.0	99.9	99.6	99.9	58.2	99.9	99.9	99.9
OXFORD CANCER INTELLIGENCE UNIT	2008	5,212	0.0	0.0	99.7	96.5	99.7	50.8	99.7	99.7	99.7
	2009	5,409	0.0	0.0	99.7	93.4	99.7	53.9	99.7	99.7	99.7
	2010	5,326	0.0	0.0	99.6	94.6	99.6	54.1	99.6	99.6	99.6
SOUTH WEST CANCER INTELLIGENCE SERVICE	2008	18,375	0.0	0.0	99.5	96.3	99.5	55.8	99.5	99.5	99.5
	2009	19,918	0.0	0.0	84.7	78.4	84.7	45.0	84.7	84.7	84.7
	2010	15,661	0.0	0.0	95.7	76.7	95.7	52.1	95.7	95.7	95.7
THAMES CANCER REGISTRY	2008	11,567	1.2	0.6	30.9	30.7	30.9	17.1	30.9	30.9	30.9
	2009	12,227	1.5	1.0	29.7	29.1	29.7	10.5	29.7	29.7	29.7
	2010	13,940	1.6	2.1	26.6	26.1	26.6	5.3	26.6	26.6	26.6
TRENT CANCER REGISTRY	2008	9,389	0.0	0.0	99.8	99.5	99.7	61.2	51.1	0.6	0.3
	2009	8,567	0.0	0.3	99.5	98.6	99.2	66.7	47.1	0.6	0.8
	2010	9,615	0.1	2.8	99.8	99.3	99.2	67.0	45.9	0.1	0.2
WEST MIDLANDS CANCER INTELLIGENCE UNIT	2008	8,765	8.7	0.0	99.9	99.9	50.9	50.9	81.2	0.3	7.2
	2009	8,655	9.7	0.0	99.9	99.8	50.6	50.6	75.2	0.2	5.1
	2010	9,369	9.6	0.0	99.8	99.5	50.0	50.0	28.5	0.3	4.1

Source: South West Public Health Observatory from NCDR

Key Points

- Staging data from the NCDR for malignant melanoma show that five of the registries achieved an integrated TNM/Registry derived overall stage in excess of 40%. Both the Eastern Cancer Registration & Information Centre (ECRIC) and Northern & Yorkshire Cancer Registry and Information (NYCRIS) consistently attained above the 70% staging target between 2008 and 2010. Both the Oxford Cancer Intelligence Unit (OCIU) and the South West Cancer Intelligence Service (SWPHO) had 0% staging completeness for pathological, clinical and integrated TNM and registry derived stage. For the individual TNM components, counter-intuitively, SWPHO had the greatest completeness of all registries. SWPHO averaged 90% of the pathological 'T' component, 7.5% of the pathological 'N' component and 4.6% of the pathological 'M' component over the period 2008-2010. This period does not reflect yet any of the effect from the national staging initiative launched in 2011.
- Staging data from the NCDR for Non Melanoma Skin Cancer (NMSC) were very poor overall and no Cancer Registries achieved the staging target for full integrated TNM or Registry derived overall stage. Thames Cancer Registry (TCR) achieved an average 16% for overall stage, significantly higher than all other registries that averaged less than 1% completeness between 2008 and 2010.
- Data for other prognostic indicators for malignant melanoma:
 1. Breslow thickness was recorded consistently highly throughout all the registries. In 2010 all registries had completeness in excess of 80%. Completeness ranged from 80.3% in TCR and 99.1% in OCIU.
 2. Clark's Level was recorded consistently highly in 6 of the 8 registries. In 2010 only TCR and Trent Cancer Registry achieved below 75% completeness (2% and 18% respectively).
- Valid specific histology (morphology code) for malignant melanoma was consistently highly recorded by all registries in 2010 (98.3% to 99.9%).
- Valid specific histology codes for NMSC were consistently highly recorded by 6 of the 8 Registries in 2010, (range of 6 registries: 93.4% to 99.6%). TCR had both low valid non-specific and specific histologies (approx 28% between 2008 and 2010). The SWPHO, although having very high completeness of valid specific histology (morphology code) in 2008, this has decreased in 2010 (96.3% and 76.7% respectively).
- The recording of valid ethnicity data for malignant melanoma remained stable between 2008 and 2010 for WMCIU, Trent Cancer Registry (TrCR), SWPHO and OCIU. The recording of ethnicity data in NYCRIS and ECRIC improved between 2008 and 2010 (25% increase and 15% increase respectively). Ethnicity recording completeness in NWCIS and TCR decreased between 2008 and 2010 (60% decrease and 42% decrease respectively). A similar pattern can be seen for NMSC.
- Recording of surgical treatment flags for malignant melanoma was consistently above 80% for all registries, with the exception of TrCR which attained an average 53% completeness between 2008 and 2010. Completeness of recording of surgical treatments for NMSC is less complete than for malignant melanoma. Half the registries appeared to have in excess of 85% completeness across the years.
- Recording of treatment flags for radiotherapy and chemotherapy showed a large disparity between registries for both malignant melanoma and NMSC. Registries appeared to be split in to two groups those with very good completeness, averaging around 98% for NYCRIS, OCIU and SWPHO between 2008 and 2010 and a second group with significantly lower with most other registries achieving less

than 1% completeness. This could be an artefact of either the way different registries collect/collate their data or the way they have submitted data to the NCDR. Recording of radiotherapy and chemotherapy are known to be incomplete, meaning the lack of a record of such a treatment cannot be assumed to definitively mean that no treatment has been received. It may be that the registries with high completeness, have assumed a lack of a treatment record means no treatment has been received, meaning a 'N' (valid flag) would be recorded. Those with the much lower completeness may not have made this assumption, and if no record of a treatment is present the treatment flag is left blank due to the uncertainty.

- NOTE: NCDR 2010 was based on ONS data and at time of submission, almost 4,000 NMSC cases diagnosed in 2010 were not yet recorded on the SWPHO registry and therefore did not get included. Care should therefore be taken when interpreting these data. SWPHO uses an amended version of NCDR 2010 for other skin cancer reports.

The NCIN is a UK-wide initiative, working to drive improvements in standards of cancer care and clinical outcomes by improving and using the information collected about cancer patients for analysis, publication and research.

Sitting within the National Cancer Research Institute (NCRI), the NCIN works closely with cancer services in England, Scotland, Wales and Northern Ireland. In England, the NCIN is part of the National Cancer Programme.

The National Cancer Intelligence Unit will be hosted by Public Health England from 1st April 2013

Our aims and objectives cover five core areas to improve the quality and availability of cancer data from its collection to use:

- **Promoting efficient and effective data collection throughout the cancer journey**
- **Providing a common national repository for cancer datasets**
- **Producing expert analyses, to monitor patterns of cancer care**
- **Exploiting information to drive improvements in cancer care and clinical outcomes**
- **Enabling use of cancer information to support audit and research programmes**