

Skin Cancer Data Quality

Skin Cancer SSCGR

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 2008 (NCDR) for skin malignancies (ICD10 C43, C44). Quality of data associated with the prognostic factors Clarks Level and Breslow thickness along with histology, ethnicity and treatment flags were also assessed.

Method

Records of skin malignancies tumours (ICD10 ICD43, C44) in each Cancer Registry in England for the three most recent diagnosis years available, 2006-2008, were analysed. 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 for tumour records relating to Clarks Level, Breslow Thickness, histology, ethnicity and treatment.

The percentage valid in each field represents the number of tumours with a valid entry (Table 1) as a proportion of all tumours of that type in a given year at a given registry.

Table 1: Valid entries for NCDR 2006-2008 fields Analysed

	Field	Valid Entries
Pathological Stage	T	0-4
	N	0-1
	M	0-1
	TNM	I-IV
Clinical Stage	T	0-4
	N	0-1
	M	0-1
	TNM	I-IV
Other Prognostic	Clark	2-5
	Breslow	> 0
Histology	All	Valid five character codes, behaviour code /3
	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
	Hormone	Y, N

Source: South West Public Health Observatory from NCDR

*Data from Hospital Episode Statistics. <http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=571>

Results

Table 2: Percentage of valid staging information for melanoma skin cancer (C43) in English Registry Areas, 2006-2008

Cancer Registry	Year	Cases	Valid Pathological Stage				Valid Clinical Stage				Integrated Stage			
			T	N	M	TNM	T	N	M	TNM	T	N	M	TNM
EASTERN CANCER REGISTRATION & INFORMATION CENTRE	2006	1124	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	79.5	3.7	4.0	84.3
	2007	1161	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	79.2	2.8	1.1	82.7
	2008	1417	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.0	2.2	0.9	86.4
NORTH WEST CANCER INTELLIGENCE SERVICE	2006	1193	8.2	1.7	1.7	2.4	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0
	2007	1137	19.7	5.4	5.0	7.2	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.0
	2008	1231	31.5	2.4	2.0	0.7	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0
NORTHERN & YORKSHIRE CANCER REGISTRY & INFORMATION SERVICE	2006	1148	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2007	1152	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2008	1143	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OXFORD CANCER INTELLIGENCE UNIT	2006	618	0.7	2.1	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2007	553	0.9	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2008	682	0.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH WEST CANCER INTELLIGENCE SERVICE	2006	1887	77.2	4.7	2.8	2.8	0.1	0.2	1.1	1.1	0.0	0.0	0.0	0.0
	2007	1917	85.5	4.6	3.6	3.5	0.1	0.1	0.8	0.7	0.0	0.0	0.0	0.0
	2008	1969	86.6	4.9	3.7	3.8	0.1	0.2	0.8	0.8	0.0	0.0	0.0	0.0
THAMES CANCER REGISTRY	2006	1600	21.1	0.7	0.1	0.0	0.6	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	2007	1755	25.1	1.0	0.6	0.0	0.6	0.5	0.2	0.0	0.0	0.0	0.0	0.0
	2008	1775	25.1	1.2	0.7	0.0	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0
TRENT CANCER REGISTRY	2006	898	0.0	0.0	0.0	69.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2007	938	0.0	0.0	0.0	68.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2008	1027	0.0	0.0	0.0	78.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WEST MIDLANDS CANCER INTELLIGENCE UNIT	2006	829	91.0	1.7	1.6	39.9	0.1	2.1	2.3	0.4	91.0	3.6	3.4	42.0
	2007	800	93.3	3.5	1.4	68.5	0.1	1.5	1.4	0.1	93.3	5.0	2.6	69.5
	2008	923	94.0	2.5	1.2	71.4	0.2	1.0	2.3	0.1	94.0	3.4	3.5	72.5

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, 2006-2008

Cancer Registry	Year	Cases	Valid Pathological Stage				Valid Clinical Stage				Integrated Stage			
			T	N	M	TNM	T	N	M	TNM	T	N	M	TNM
EASTERN CANCER REGISTRATION & INFORMATION CENTRE	2006	6661	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.0
	2007	3865	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.3	0.1	0.0
	2008	14343	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0
NORTH WEST CANCER INTELLIGENCE SERVICE	2006	10946	0.8	0.6	0.6	0.9	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0
	2007	11325	8.0	0.9	0.8	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
	2008	11294	11.1	0.4	0.4	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
NORTHERN & YORKSHIRE CANCER REGISTRY & INFORMATION SERVICE	2006	11461	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2007	11957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2008	12292	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OXFORD CANCER INTELLIGENCE UNIT	2006	4836	0.1	18.6	18.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2007	5115	0.1	16.7	16.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2008	5389	0.6	6.3	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH WEST CANCER INTELLIGENCE SERVICE	2006	16432	2.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2007	18259	2.7	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2008	18286	2.9	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THAMES CANCER REGISTRY	2006	2975	3.8	0.2	0.0	0.0	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0
	2007	3695	5.1	0.2	0.0	0.0	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0
	2008	4162	4.7	0.3	0.0	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
TRENT CANCER REGISTRY	2006	8589	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2007	9039	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2008	9975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WEST MIDLANDS CANCER INTELLIGENCE UNIT	2006	7940	4.5	0.1	0.0	0.0	0.2	0.1	0.0	0.0	4.7	0.2	0.1	0.0
	2007	8700	4.7	0.1	0.0	0.0	0.2	0.1	0.1	0.0	4.8	0.2	0.1	0.0
	2008	8941	4.7	0.1	0.0	0.0	0.1	0.1	0.0	0.0	4.8	0.1	0.1	0.0

Source: South West Public Health Observatory from NCDR

Table 4: Percentage of valid histological, ethnicity and treatment information for melanoma skin cancer (C43) in English Registry Areas, 2006-2008

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	2006	1124	5.4	7.1	90.8	90.8	90.2	57.9	89.4	0.7	0.4
	2007	1161	71.7	79.2	89.7	89.7	87.0	32.2	87.4	0.2	0.2
	2008	1417	76.6	81.9	90.8	90.8	89.3	29.0	83.4	0.4	0.4
NORTH WEST CANCER INTELLIGENCE SERVICE	2006	1193	54.6	74.2	98.5	98.5	74.9	66.5	98.5	98.5	98.5
	2007	1137	65.3	81.5	99.3	99.3	82.6	72.9	99.3	99.3	99.3
	2008	1231	68.0	79.8	98.7	98.7	81.7	70.8	98.7	98.7	98.7
NORTHERN & YORKSHIRE CANCER REGISTRY & INFORMATION SERVICE	2006	1148	87.6	88.7	96.3	96.3	96.3	35.0	96.3	96.3	96.3
	2007	1152	89.7	91.8	96.9	96.9	96.9	38.1	96.9	96.9	96.9
	2008	1143	94.7	95.3	99.5	99.5	99.5	59.3	99.5	99.5	99.5
OXFORD CANCER INTELLIGENCE UNIT	2006	618	1.0	91.1	94.7	94.7	94.7	65.4	94.7	94.7	94.7
	2007	553	1.3	88.4	92.8	92.8	92.8	65.8	92.8	92.8	92.8
	2008	682	48.7	83.3	90.8	90.5	90.8	58.9	90.8	90.8	90.8
SOUTH WEST CANCER INTELLIGENCE SERVICE	2006	1887	72.0	72.5	96.7	96.7	96.7	65.6	96.7	96.7	96.7
	2007	1917	78.1	71.8	96.7	96.7	96.7	67.1	96.7	96.7	96.7
	2008	1969	77.7	75.1	96.4	96.4	96.4	66.2	96.4	96.4	96.4
THAMES CANCER REGISTRY	2006	1600	8.3	63.1	96.4	96.4	96.4	67.4	96.4	96.4	96.4
	2007	1755	5.7	66.4	97.0	97.0	97.0	63.5	97.0	97.0	97.0
	2008	1775	5.2	69.6	96.7	96.7	96.7	57.9	96.7	96.7	96.7
TRENT CANCER REGISTRY	2006	898	0.0	0.0	94.5	94.5	94.5	74.4	62.6	16.6	16.7
	2007	938	0.0	0.0	93.8	93.4	93.5	74.0	47.2	9.5	8.2
	2008	1027	0.0	0.0	93.1	91.9	92.7	67.9	54.2	14.8	13.2
WEST MIDLANDS CANCER INTELLIGENCE UNIT	2006	829	88.2	91.7	96.6	96.5	63.6	63.6	96.6	96.6	96.6
	2007	800	90.4	93.1	96.9	96.9	61.4	61.4	96.9	96.9	96.9
	2008	923	91.6	93.6	97.6	97.6	62.8	62.8	97.6	97.6	97.6

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, 2006-2008

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	2006	6661	0.0	0.0	96.5	96.5	95.4	52.1	95.2	0.1	0.6
	2007	3865	0.0	0.0	93.6	93.3	85.2	35.8	90.3	0.3	1.0
	2008	14343	0.0	0.0	98.0	97.9	94.0	18.6	93.9	0.0	0.2
NORTH WEST CANCER INTELLIGENCE SERVICE	2006	10946	0.4	0.0	99.0	97.0	54.7	46.0	99.0	99.0	99.0
	2007	11325	0.3	1.8	99.2	97.9	61.3	52.0	99.2	99.2	99.2
	2008	11294	0.0	8.7	99.3	97.4	59.7	50.7	99.3	99.3	99.3
NORTHERN & YORKSHIRE CANCER REGISTRY & INFORMATION SERVICE	2006	11461	0.0	0.1	94.5	94.3	94.5	34.4	94.5	94.5	94.5
	2007	11957	0.0	0.0	97.0	96.9	97.0	13.9	97.0	97.0	97.0
	2008	12292	0.0	0.0	99.3	99.2	99.3	9.6	99.3	99.3	99.3
OXFORD CANCER INTELLIGENCE UNIT	2006	4836	0.0	0.0	97.3	97.1	97.3	52.6	97.3	97.3	97.3
	2007	5115	0.0	0.0	97.6	97.3	97.6	45.8	97.6	97.6	97.6
	2008	5389	0.0	0.0	95.5	92.5	95.5	43.8	95.5	95.5	95.5
SOUTH WEST CANCER INTELLIGENCE SERVICE	2006	16432	0.0	0.0	99.5	92.3	99.5	49.7	99.5	99.5	99.5
	2007	18259	0.0	0.0	99.3	97.3	99.3	48.5	99.3	99.3	99.3
	2008	18286	0.0	0.0	98.9	95.7	98.9	50.7	98.9	98.9	98.9
THAMES CANCER REGISTRY	2006	2975	4.1	1.1	91.4	89.6	91.4	54.3	91.4	91.4	91.4
	2007	3695	3.5	1.5	92.3	91.3	92.3	55.2	92.3	92.3	92.3
	2008	4162	2.8	1.6	81.8	81.1	81.8	45.2	81.8	81.8	81.8
TRENT CANCER REGISTRY	2006	8589	0.0	0.0	95.3	95.1	95.3	66.8	53.0	18.9	19.0
	2007	9039	0.0	0.0	96.8	96.5	96.7	66.7	45.8	10.0	10.1
	2008	9975	0.0	0.0	94.6	94.3	94.5	57.1	49.3	12.5	12.2
WEST MIDLANDS CANCER INTELLIGENCE UNIT	2006	7940	7.1	0.0	98.3	98.2	43.6	43.6	98.3	98.3	98.3
	2007	8700	7.7	0.0	97.8	97.7	42.0	42.0	97.8	97.8	97.8
	2008	8941	8.5	0.0	97.8	97.8	41.1	41.1	97.8	97.8	97.8

Source: South West Public Health Observatory from NCDR

Key Points

- Staging data from the NCDR for Malignant Melanoma show that only ECRIC and WMCIU achieved an integrated TNM. TrCR achieved 78.5% of valid pathological TNM Stage in 2008. SWCIS achieved 86.6% of the T component of the valid pathology stage in 2008 and NWCIS and TCR achieved respectively 31.5% and 25.1%. However none of these three registries achieved high recording of valid pathological N, M or high percentage of valid clinical stage.

(ECRIC, Eastern Cancer Registration & Information Centre; NWCIS, North West Cancer Intelligence Service; NYCRIS, Northern & Yorkshire Cancer Registry & Information Service; OCIU, Oxford Cancer Intelligence Unit; SWCIS, South West Cancer Intelligence Service; TCR, Thames Cancer Registry; TrCR, Trent Cancer Registry; WMCIU, West Midlands Cancer Intelligence Unit)

- Staging data from the NCDR for Non Melanoma Skin Cancer were very poor overall and no cancer registries achieved full integrated TNM.
- Data for Malignant Melanoma prognostic factors such as Clarks level and Breslow thickness in 2008 ranged from 5.2% (TCR) to 94.7% (NYCRIS) for Clarks level and from 69.6% (TCR) to 95.3% (NYCRIS) for Breslow thickness, one registry did not record any data, one registry did not record any data for Clarks level and Breslow thickness
- Data for Non Melanoma Skin Cancer prognostic factors such as Breslow thickness and Clarks level in 2008 were low or absent.
- High percentages of valid specific histology code for Malignant Melanoma were recorded (90.5% to 99.5%) in 2008 by all registries.
- High percentages of valid specific histology code for Non Melanoma Skin Cancer were recorded (81.1% to 99.2%) in 2008 by all registries.
- The recording of valid Ethnicity data for Malignant Melanoma varied amongst registries in 2008 (29% (ECRIC) to 70.8% (NWCIS)) and had reduced over the three year period for a number of registries.
- The recording of valid Ethnicity data for Non Melanoma Skin Cancer varied amongst registries in 2008 (9.6% (NYCRIS) to 57.1% (TrCR)) and had reduced over the three year period for a number of registries.
- Treatment flag was completed for at least 90% of Malignant Melanoma cases for surgery, chemotherapy, radiotherapy by 6 out of the 8 cancer registries in 2008 (99.5% (NYCRIS), 98.7% (NWCIS), 97.6% (WMCIU), 96.7% (TCR), 96.4% (SWCIS) and (OCIU) 90.8%). ECRIC achieved high completion of the treatment flag for surgery (83.4% for surgery and less than 1% for chemotherapy, radiotherapy) while TrCR was lower in 2008 (54.2% for surgery and 14.8% or less for chemotherapy, radiotherapy).
- Treatment flag was completed for at least 90% of Non Melanoma Skin Cancer cases for surgery, chemotherapy, radiotherapy by 5 out of the 8 cancer registries in 2008 (99.3% (NWCIS), 99.3% (NYCRIS), 98.9% (SWCIS), 97.8% (WMCIU) and 95.5% (OCIU)). ECRIC achieved high completion of the treatment flag for surgery (93.9% for surgery and less than 1% for chemotherapy, radiotherapy and hormonal treatment) while TrCR was lower (49.3% in 2008 for surgery and 12.5% or less for chemotherapy, radiotherapy).

Over 2010-11, South West Public Health undertook a Skin Cancer registration project and during 2011 analysis will detail what is achievable when more in depth completion of data is done.

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.

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

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