

12. Malignant Melanoma of Skin

ICD-9 172

KEY FACTS

- On average 160 melanomas of the skin were registered per year.
- Twice as common in females than in males.
- Higher than expected numbers in Southern Board area for females, North Down for males.
- Falling levels of invasive disease and rising levels of *in situ* disease in females.
- Rising levels of invasive and *in situ* disease in males.

On average, over the 1993-95 period, 160 cases of malignant melanoma were registered each year. Malignant Melanoma accounted for about 1.5% of cancers in males and about 2.5% in females. It was the ninth most commonly diagnosed cancer in females, twelfth in males. Almost two thirds of cases (64%) were diagnosed in females. Deaths recorded in the period 1993-95 were a sixth of the number of cases reflecting a relatively high level of survival for the disease. The number and rates of melanoma increased in males and fell significantly in females.

Table 22 Summary Statistics

Year	MALES			FEMALES		
	1993	1994	1995	1993	1994	1995
INCIDENCE						
Incident Cases	54	61	64	113	102	93
Crude Rate (per 100,000)	6.78	7.61	7.95	13.53	12.14	11.02
Cumulative Risk (0-74) (%)	0.62	0.64	0.67	0.96	0.83	0.88
WASR (per 100,000)	5.86	6.44	6.57	10.63	9.35	8.23
EASR (per 100,000)	7.94	8.36	9.07	12.99	11.78	10.45
% of All Cancers	1.40	1.50	1.50	2.80	2.70	2.20
DATA QUALITY						
Mortality: Incidence Ratio	0.13	0.23	0.14	0.17	0.20	0.17
% Death Certificate Only	0.00	0.00	0.00	0.00	0.00	0.00
% Microscopically Verified	100.00	100.00	100.00	100.00	100.00	100.00
MORTALITY						
Number of Deaths	7	14	9	20	21	16
Crude Rate (per 100,000)	0.88	1.75	1.12	2.39	2.50	1.90
Cumulative Risk (0-74) (%)	0.07	0.11	0.09	0.18	0.17	0.10
WASR (per 100,000)	0.66	1.39	0.90	1.57	1.67	1.05
EASR (per 100,000)	0.97	2.08	1.22	2.16	2.33	1.51
% of All Cancers	0.37	0.75	0.49	1.15	1.19	0.97
WASR = Rates standardised for age to the World standard population						
EASR = Rates standardised for age to the European standard population						

Age Profile

Melanoma was more frequent in young females than young males - almost one third of cases in females are diagnosed before the age of 40 (as opposed to one fifth of cases in males). Age specific rates, although somewhat higher in older age groups were relatively stable across all adult age groups - especially so in females. Median age at diagnosis was 56 years for males and 54 years for females - a much younger age than in the Republic of Ireland (62 and 61 years for median age respectively) - see Figures 21 and 22.

Figure 21 Age Distribution of New Cases 1993-95, Malignant Melanoma

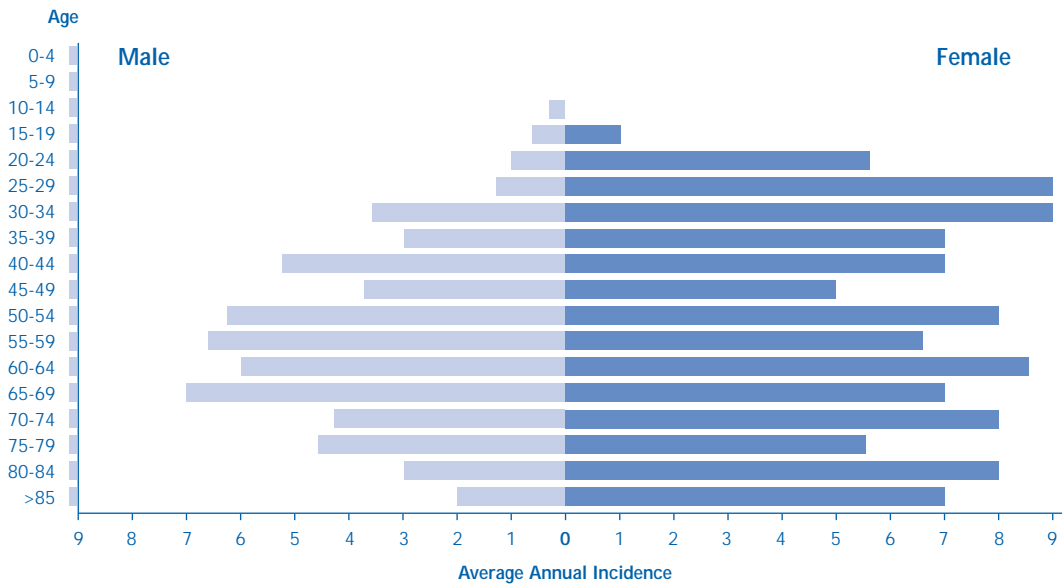
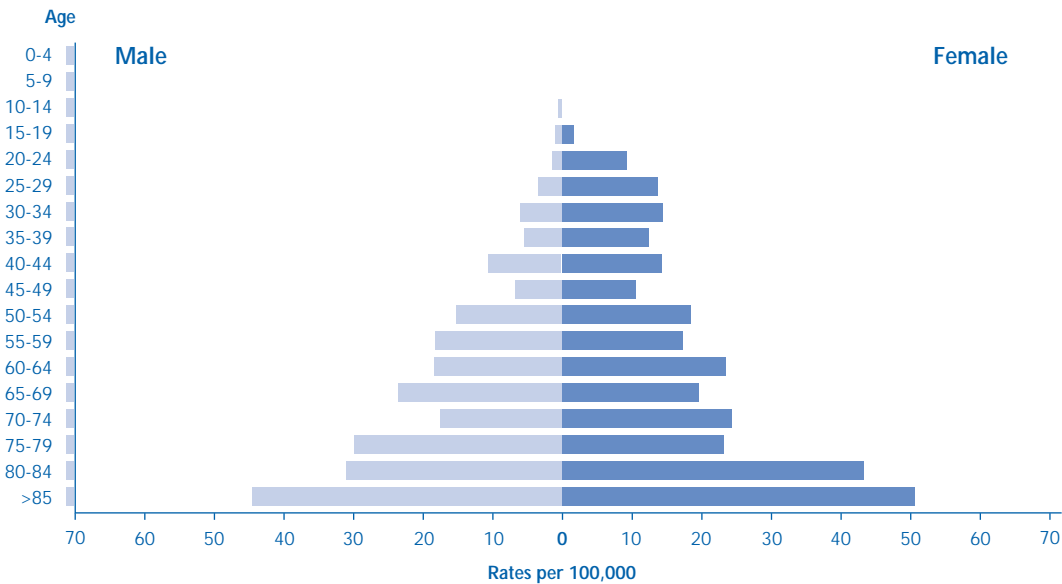


Figure 22 Average Annual Age Specific Rates (per 100,000) 1993-95, Malignant Melanoma



Morphology

All tumours had a Microscopic Verification. In addition to the 160 cases per year of invasive malignant melanoma there were on average, 39 *non-invasive* cases diagnosed in females and 21 in males. Superficial spreading malignant melanoma was the most commonly diagnosed type accounting for 45% of invasive cases in females, 36% of cases in males - see Annex to this section for more detail.

Geographical Distribution

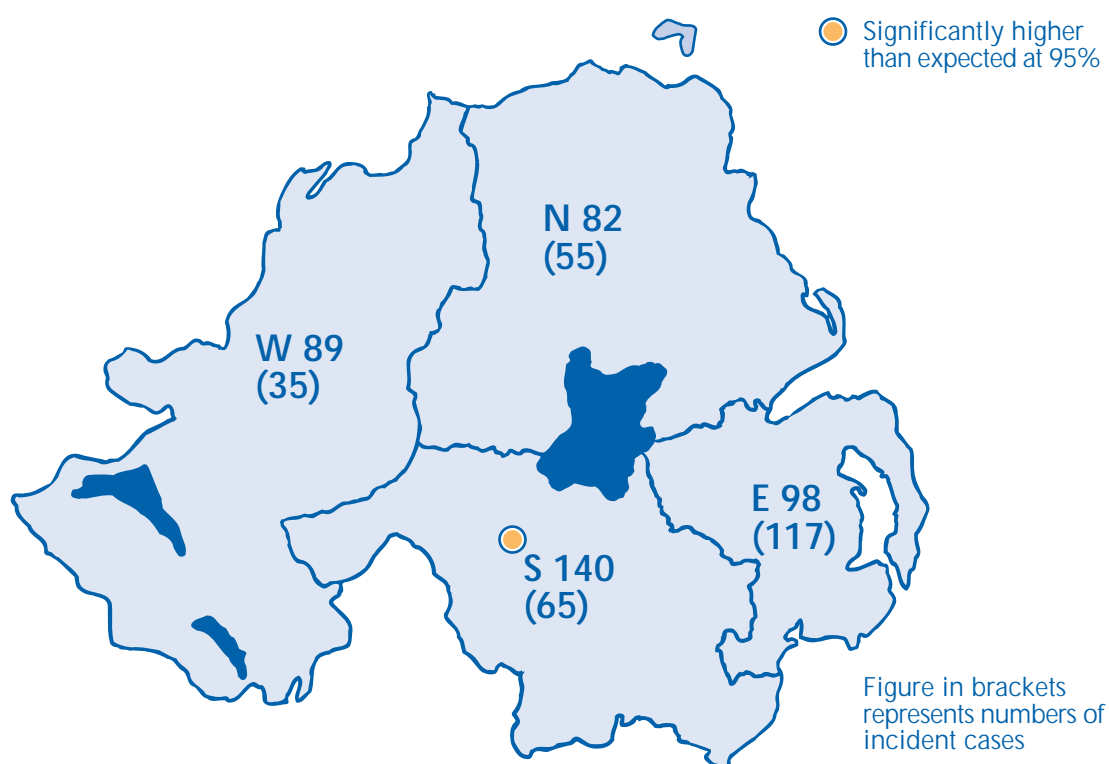
Variation across Health Boards/District Councils in the observed number of cases due to differences in the age structure of the underlying population has been accounted for by using Standardised Incidence Ratios (SIRs) - see Appendix ii. Values above or below 100 indicate an excess/deficit over what would be expected if that area experienced the same level of incidence as Northern Ireland as a whole.

There was no significant geographical variation by Health Board in Northern Ireland for males. For females the numbers were higher than expected in the Southern Board area (based on 65 cases) - see Map 6.

Higher than expected numbers in males were found in the District Council areas of North Down (based on 15 cases) and in females from Armagh (based on 15 cases) and Newry & Mourne (based on 26 cases).

Lower than expected numbers were found in Ballymoney District Council for males and females and in Limavady for males only.

Map 6. All Age Female Standardised Incidence Ratios (SIRs) by District Council 1993-95, Malignant Melanoma of the Skin



Data Quality

The data quality was excellent, in part thanks to the existence of an Ulster Cancer Foundation funded Malignant Melanoma Registry and the work of Dr Pauline Pedlow. The proportion of Microscopically Verified cases remained consistent at 100%, reflecting the investment in the disease specific Melanoma register. Figures compare well with those from Denmark and the Netherlands which have long established population cancer registries and are generally regarded as having amongst the best measures of data quality in the world.

Comparison with other Countries

Table 23 provides comparative figures for the numbers of cases and European Age Standardised Rates for the year 1995. The Northern Ireland rate for males was lower than that in the Republic of Ireland or Scotland, but higher than for England & Wales. The same was true for females.

Table 23 Comparative Numbers and Rates for Britain and Ireland 1995, Malignant Melanoma of Skin

Country	Males		Females	
	Cases	EASR (per 100,000)	Cases	EASR (per 100,000)
Scotland	238	9.40	393	13.10
England & Wales	1730	6.60	2550	8.20
Republic of Ireland*	169	11.00	329	19.14
Northern Ireland	64	9.07	93	10.45

* ROI figures include *in situ* tumours.

Comment

The number of cases of malignant melanoma has increased rapidly in Northern Ireland over the past 25 years from an average of 48 cases per year (1974-1978) to 160 cases per year. World-wide, melanoma incidence is rising by around 4% a year.

Malignant melanoma is largely preventable by avoiding excessive sun exposure, while early detection and adequate treatment can dramatically improve survival.

The pattern of increasing cases in males and falling rates in females in Northern Ireland has been known for some time (due to the pre-existing Melanoma Register) and is similar to the trends observed in Scottish data (ref: 11). The increase was greatest among those under 50 but was especially marked in young females under 30 years of age.

The most important factor with regard to favourable prognosis is the clinical stage at which the patient first presents to a clinician. The patterns of falling numbers of invasive and rising numbers of *in situ* cases in females is indicative of earlier detection of the disease. Unfortunately the same does not apply to males.

Numbers of melanomas are small and trends are difficult to assess. However, over the 3 years the numbers of females with malignant skin melanomas have fallen and presentation is at an earlier pathological stage, suggesting that public efforts to reduce the avoidable burden of the disease is taking effect.

A DHSS strategy for the prevention, diagnosis and treatment of malignant melanoma and other skin cancers, launched in 1997 (ref: 12), aims to address this rising trend. The strategy builds on health promotion programmes which have been ongoing in the Province since 1990. It also aims to encourage earlier detection of melanoma and promote treatment according to agreed protocols by dermatologists and plastic surgeons.

For Health Gain

- The public must be encouraged to take 'Care in the Sun' at home and abroad by:
 - avoiding the sun 11 am - 3 pm and seeking shade
 - covering up with hat, T-shirt, sunglasses
 - using minimum factor 15 sunscreen.
- The public must be encouraged to become aware of changes in the skin which could indicate the presence of skin cancer and especially malignant melanoma.
- Professionals must ensure a fast track approach to the diagnosis of suspicious lesions and treatment according to agreed guidelines.
- Participation in clinical trials, which can advise on the best outcomes, should be enhanced.
- The organisation of services should be such as to ensure that those with the disease have as good an outcome as possible.
- The full range of palliative care services should be available for those with established disease.

Melanoma of the Skin

Histological Types

Pathologists can tell something about how a melanoma is likely to behave by looking at the way the tumour cells have spread. This description provides a number of types or morphologies. In skin melanomas, patients whose tumour has a morphology of lentigo maligna melanoma have the best prognosis, nodular melanoma the worst, and superficial spreading melanoma an intermediate position. Acral melanomas are rare and occur in places such as nail bed and the soles of the feet. Table 24 below shows the morphological types for melanoma of the skin only.

Table 24 Melanoma of Skin, Morphology of Tumour by Year of Diagnosis

Morphology Description	SNOMED Code	Nos. (% of Total) by year		
		1993	1994	1995
MALES				
INVASIVE CANCERS				
Melanoma, NOS	M87203	17 (31.5%)	12 (19.8%)	13(20.3%)
Nodular Melanoma	M87213	8 (14.8%)	17 (27.9%)	11 (17.2%)
Superficial Spreading Melanoma	M87433	21 (38.9%)	23 (37.7%)	27 (42.2%)
Lentigo Maligna Melanoma	M87423	7 (13.0%)	9 (14.8%)	10 (15.6%)
Acral Lentiginous Melanoma	M87443	1 (1.9%)	0 (0%)	3 (4.7%)
TOTAL INVASIVE CASES		54	61	64
IN SITU CANCERS				
Melanoma <i>in situ</i>	M87202	1 (5.9%)	2 (9.1%)	6 (24.0%)
Lentigo Maligna <i>in situ</i>	M87422	14 (82.4%)	15 (68.2%)	15 (60.0%)
Superficial Spreading Melanoma <i>in situ</i>	M87432	2 (11.8%)	5 (22.7%)	4 (16.0%)
TOTAL <i>IN SITU</i>		17	22	25
FEMALES				
INVASIVE CANCERS				
Melanoma, NOS	M87203	14 (12.4%)	30 (29.4%)	16 (17.2%)
Nodular Melanoma	M87213	19 (16.8%)	13 (12.7%)	18 (19.4%)
Superficial Spreading Melanoma	M87433	67 (59.3%)	44 (43.1%)	45 (48.4%)
Lentigo Maligna Melanoma	M87423	10 (8.8%)	12 (11.8%)	11 (11.8%)
Acral Lentiginous Melanoma	M87443	3 (2.7%)	3 (2.9%)	3 (3.2%)
TOTAL INVASIVE CASES		113	102	93
IN SITU CANCERS				
Melanoma <i>in situ</i>	M87202	7 (25.0%)	15 (31.9%)	8 (19.5%)
Lentigo maligna <i>in situ</i>	M87422	14 (50.0%)	23 (48.9%)	22 (53.7%)
Superficial Spreading Melanoma <i>in situ</i>	M87432	7 (25.0%)	9 (19.2%)	11 (26.8%)
TOTAL <i>IN SITU</i>		28	47	41

In both sexes, superficial spreading melanoma was the most common morphological type accounting for nearly half of all female malignant melanomas (48.7%) and 40% of all male malignant melanomas.

Pathological Staging

The prognosis of patients with melanoma is dependent on the stage of the disease at diagnosis. The staging of malignant melanomas was restricted to primary skin melanocytic lesions only. The stage is derived from two measurements:

- 1) the Clark's level, which was derived from the pathologist's description of how far the tumour had invaded the underlying layers of skin, and
- 2) the Breslow thickness, which gives the vertical depth of the tumour measured by the pathologist under the microscope.

A combination of the Clark's level and the Breslow thickness is used to estimate the pT of the tumour (ref: 13). Where possible nodal and metastatic involvement were noted at time of diagnosis. Table 25 provides details of staging by year of diagnosis and sex.

Table 25 Melanoma of Skin, Staging of Tumour by Year of Diagnosis

pT Stage:	Nos. (% of Total) by year		
	1993	1994	1995
MALES			
pTis Non invasive <i>in situ</i>	17 (23.9%)	22 (26.5%)	25 (28.1%)
pT1 Tumour low level of invasion <0.75mm	10 (14.1%)	2 (2.4%)	9 (10.1%)
pT2 Tumour invasion 0.75 - 1.49mm	7 (9.9%)	15 (18.1%)	12 (13.5%)
pT3a Tumour invasion 1.5 - 2.9mm	17 (23.9%)	28 (33.7%)	23 (25.8%)
pT3b Tumour invasion 3.0 - 3.9mm	5 (7.0%)	4 (4.8%)	6 (6.7%)
pT4a Tumour invasion >4.0mm	5 (7.0%)	5 (6.0%)	4 (4.5%)
pT4b Satellite tumour present	0 (0%)	1 (1.2%)	1 (1.1%)
pTX Tumour invasion not assessed	10 (14.1%)	6 (7.2%)	9 (10.1%)
Total (Includes <i>in situ</i> + invasive)	71	83	89
FEMALES			
	Nos. (% of Total) by year		
	1993	1994	1995
pTis Non invasive <i>in situ</i>	28 (19.9%)	47 (31.5%)	41 (30.6%)
pT1 Tumour low level of invasion <0.75mm	15 (10.6%)	6 (4.0%)	9 (6.7%)
pT2 Tumour invasion 0.75 - 1.49mm	30 (21.3%)	26 (17.4%)	24 (17.9%)
pT3a Tumour invasion 1.5 - 2.9mm	47 (33.3%)	38 (25.5%)	27 (20.1%)
pT3b Tumour invasion 3.0 - 3.9mm	7 (5.0%)	8 (5.4%)	8 (6.0%)
pT4a Tumour invasion >4.0mm	6 (4.3%)	9 (6.0%)	8 (6.0%)
pT4b Satellite tumour present	2 (1.4%)	0 (0%)	2 (1.5%)
pTX Tumour invasion not assessed	6 (4.3%)	15 (10.1%)	15 (11.2%)
Total (Includes <i>in situ</i> + invasive)	141	149	134

Nodal involvement at diagnosis was very low with only one case every year for both males and females, except for 1995 females when no node positive cases were detected in that year. Only those cases with positive nodes were available to the Registry. Nodal involvement for node negative cases was not recorded.