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Epidemiology of Skin Cancer

NCIN Skin Cancer Workshop – 25 Nov 2011

Skin Cancer – What do we need to know

How common is it

Is it preventable

Is it treatable

Organisation of treatment

Commissioning and Costs

Risks for the population

- Sun exposure – artificial ultra violet exposure
- Immunosuppression – post transplant (SCC)
- Genetic – xeroderma pigmentosa (SCC) and Gorlin's syndrome (BCC)

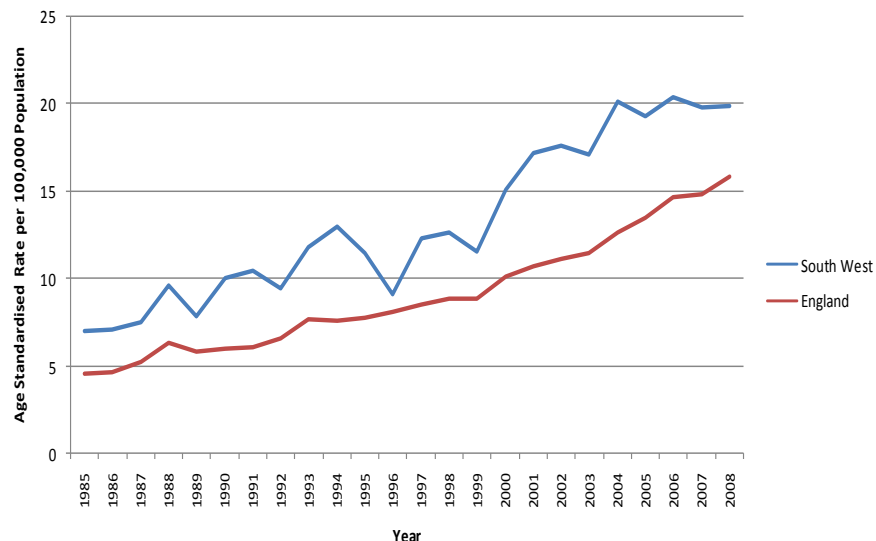
Comparison of average number of new skin cancer cases and deaths with other types of cancers in the South West GOR, 2004–2008

Cancer type (and ICD-10 code)	Average annual number of new registered cases (2004-2008)		Average annual number of deaths (2004-2008)	
	Female	Male	Female	Male
Bladder (C67)	266	718	149	305
Breast (C50)	4,695	34	1,160	8
Cervix (C53)	253	0	85	0
Colorectal (C18-C20)	1,742	2,011	712	794
Leukaemia (C91-C95)	349	471	185	251
Lung (C33-C34)	1,269	1,851	1,032	1,536
Melanoma (C43)	698	633	106	125
Non-Melanoma Skin (C44)	5,900	7,244	22	32
Non-Hodgkins Lymphoma (C82-C85, C96)	550	648	209	251
Ovary (C56)	718	0	434	0
Prostate (C61)	0	4,031	0	1,098
Upper Gastro-Intestinal (C15-C16, C25)	915	1,292	810	1,083

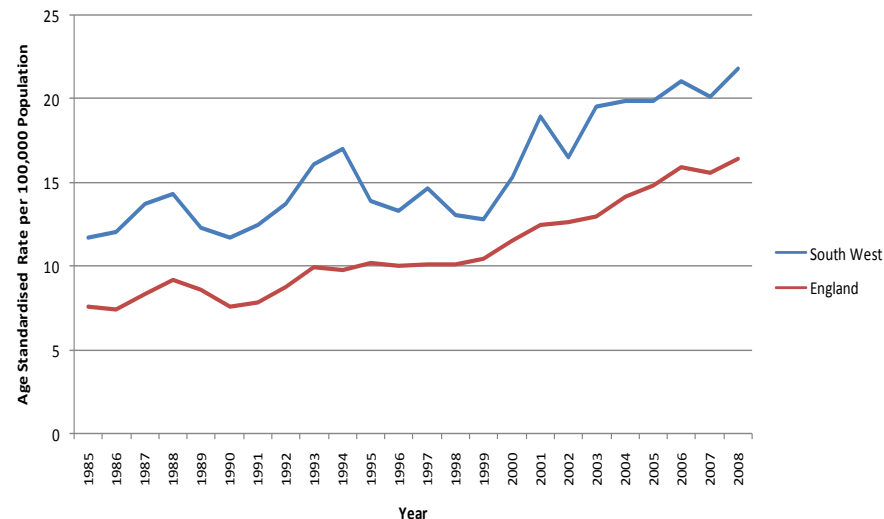
Source: South West Public Health Observatory and ONS Mortality Statistics

Malignant Melanoma – Rising Incidence

Malignant Melanoma - Incidence
Age Standardised Rates for Males

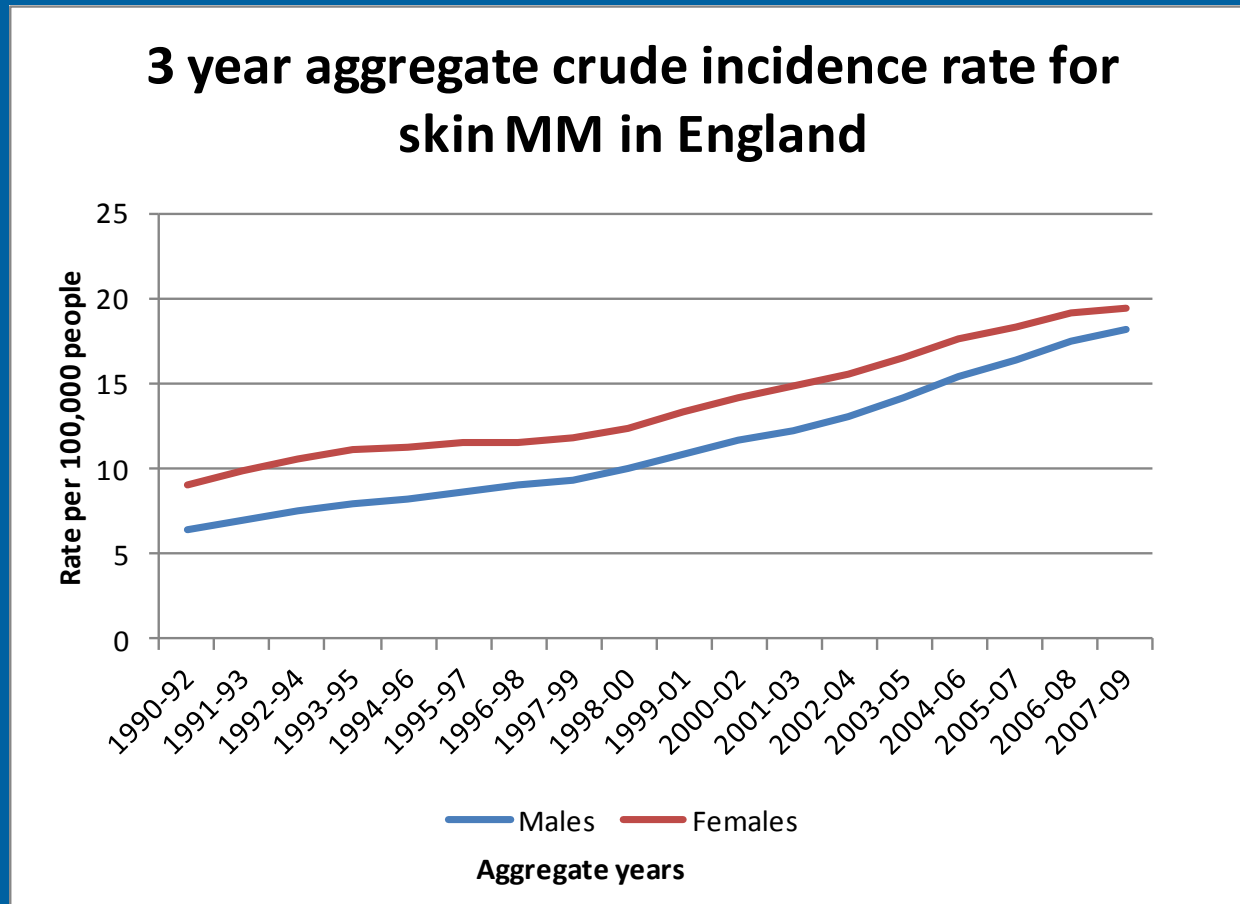


Malignant Melanoma - Incidence
Age Standardised Rates for Females



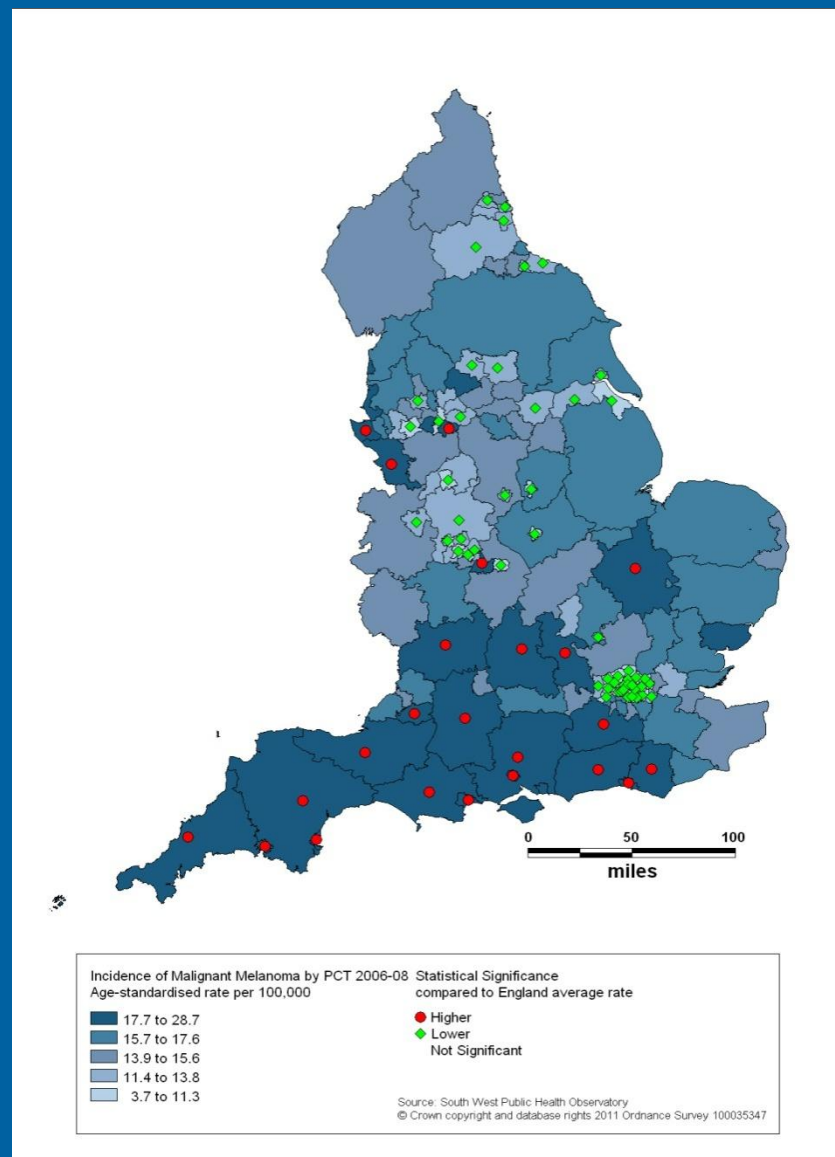
Source: UK Cancer Intelligence Service

Trend of Skin malignant melanoma in England

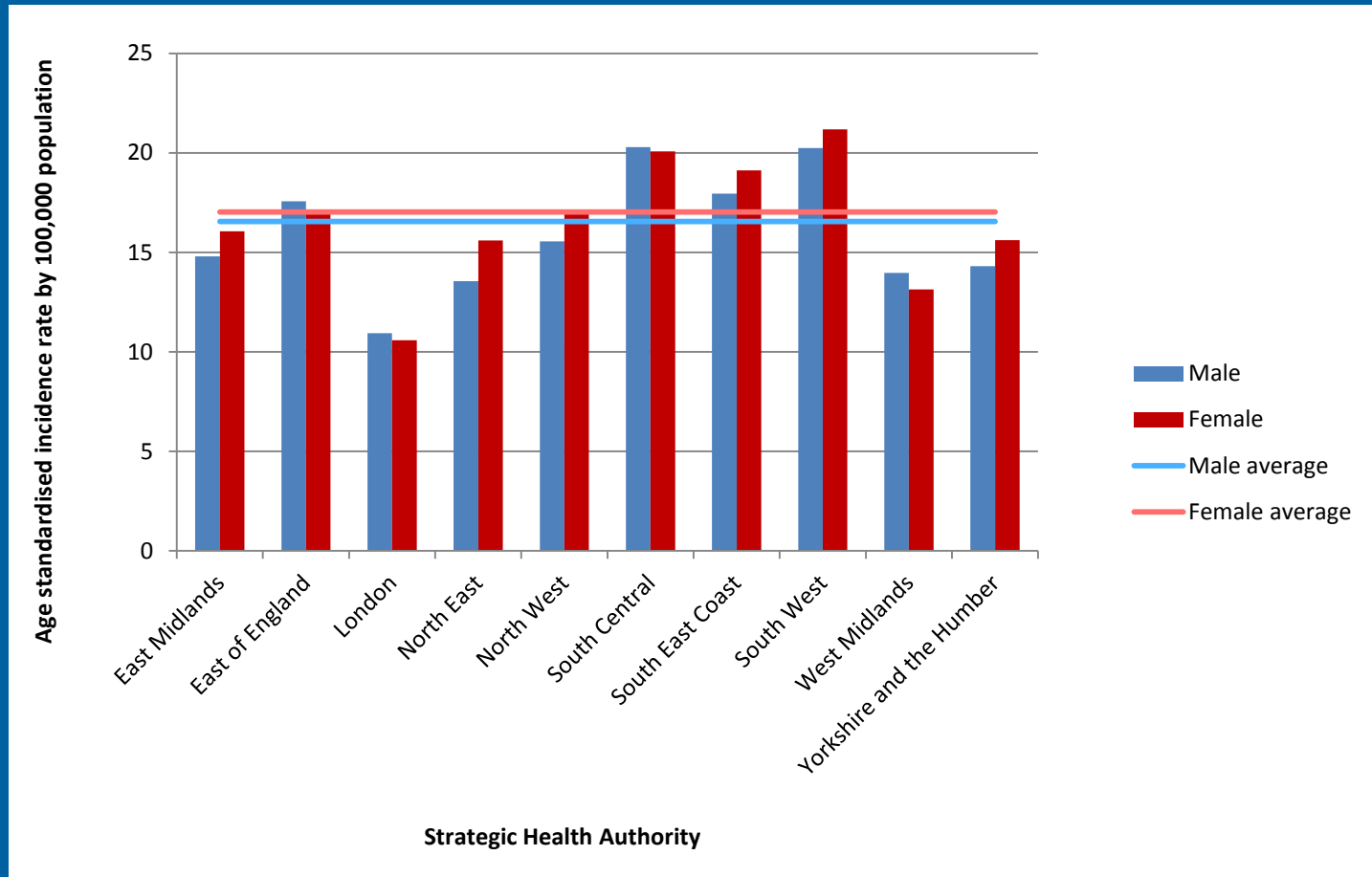


Source: National Cancer Data Repository

ASR for Malignant Melanoma by English PCTs 2006-08



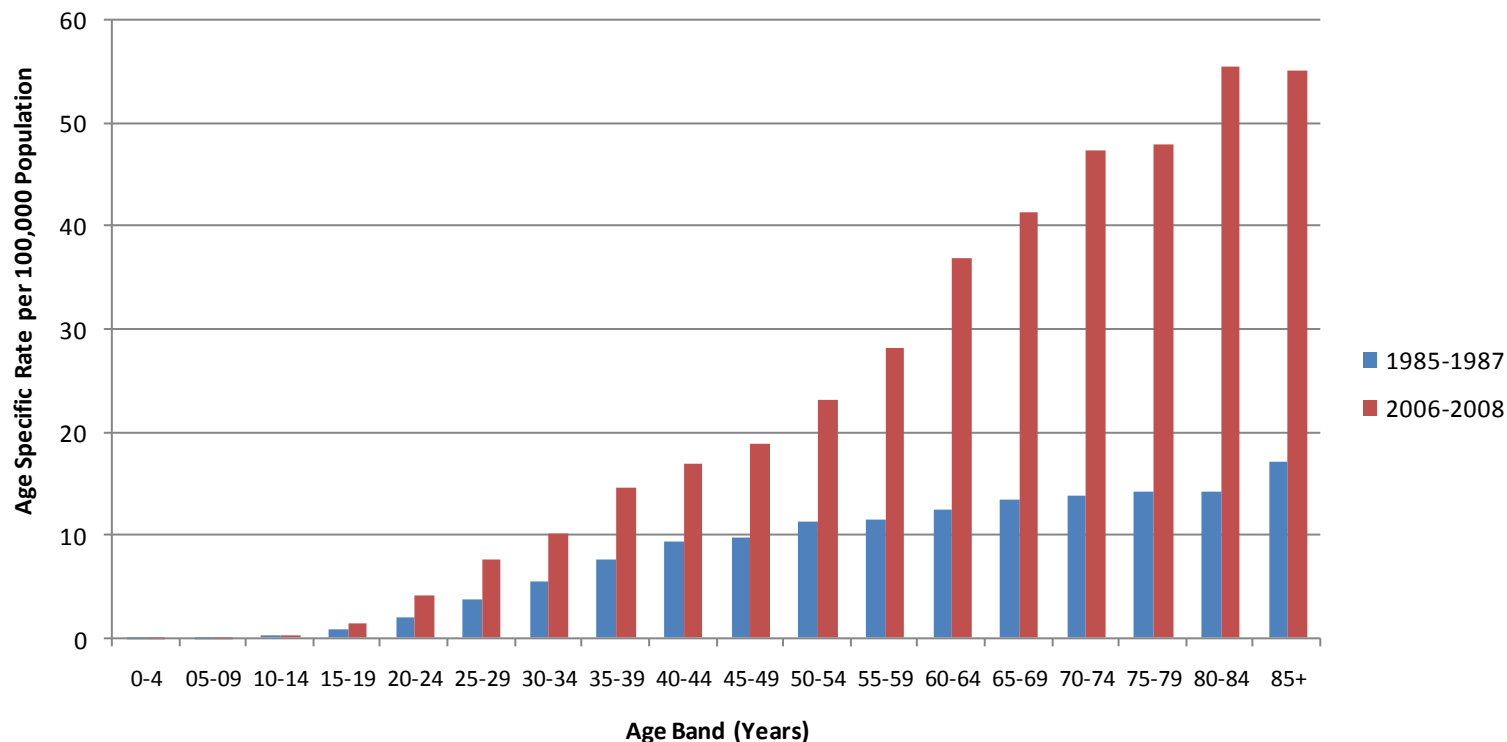
Age standardised incidence rate for malignant melanoma England – 2007-09



Source : National Cancer Data Repository

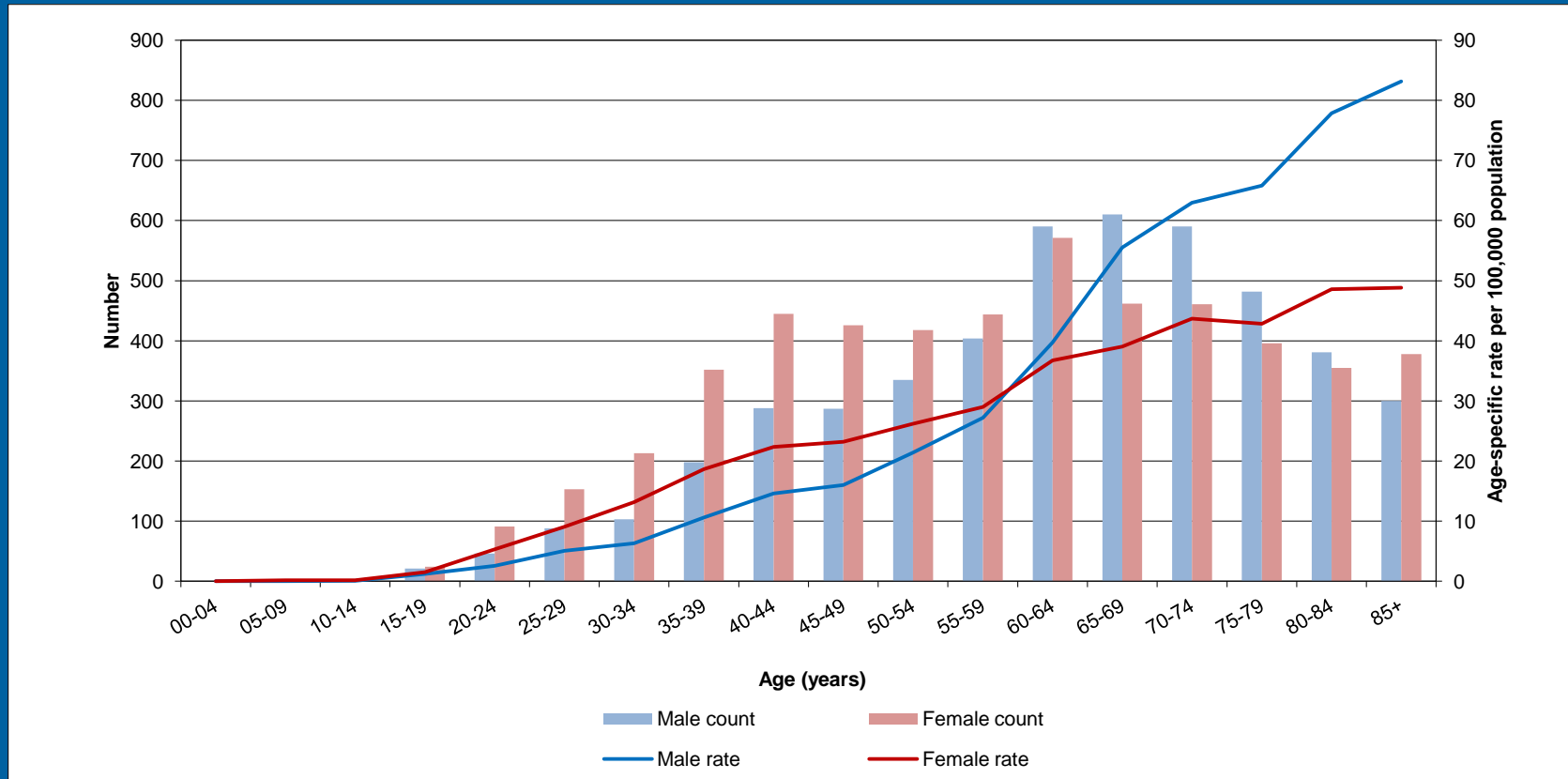
Age band incidence of MM in England

Age Banded Incidence of Malignant Melanoma in England
Three-Year Average of Age Specific Rates



Source: UK Cancer Intelligence Service

Number of malignant melanomas (ICD-10 C43) and age-specific rate of malignant melanoma per 100,000 population, England 2008



Source: UK Cancer Intelligence Service

Increased incidence of MM in UK

- In 2008 malignant melanoma was the sixth most common cancer in females. Between 2007 and 2008 malignant melanoma moved from the ninth most common cancer in males to the sixth most common. This is due to an extra 600 cases being diagnosed in males in 2008 than in 2007.
- From 1975-2008, malignant melanoma incidence rates in men aged 60-79 increased by around 790%, more than in any other age group

Source: Cancer Research UK . Web (2011)

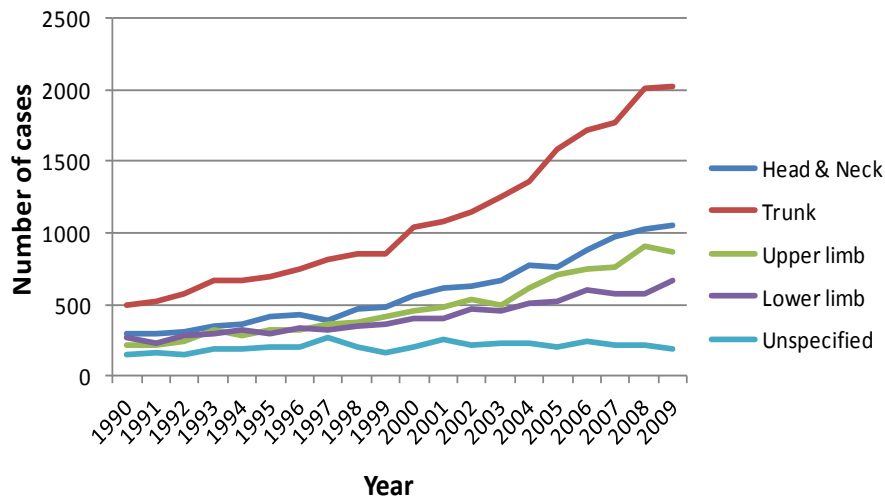
MM in young people In UK

- More than two 15-34 year olds are diagnosed with malignant melanoma every day (over 900 cases were diagnosed in this age-group in 2008) and it is the second most common cancer in this age-group.
- More than a quarter (28%) of all cases occurs in people aged less than 50 years.

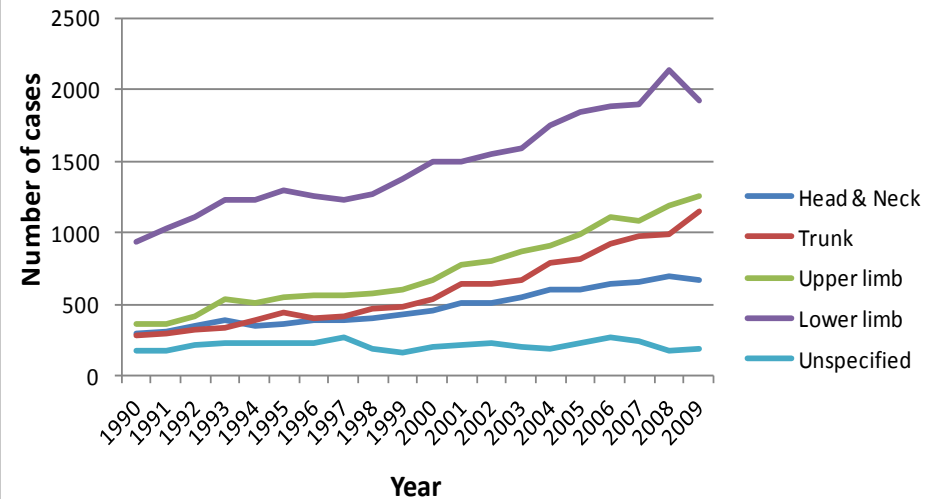
Source: Cancer Research UK . Web (2011)

Malignant Melanoma- Anatomical site presentation in England

MM by anatomical sites in Males - England



MM by anatomical sites in Females - England

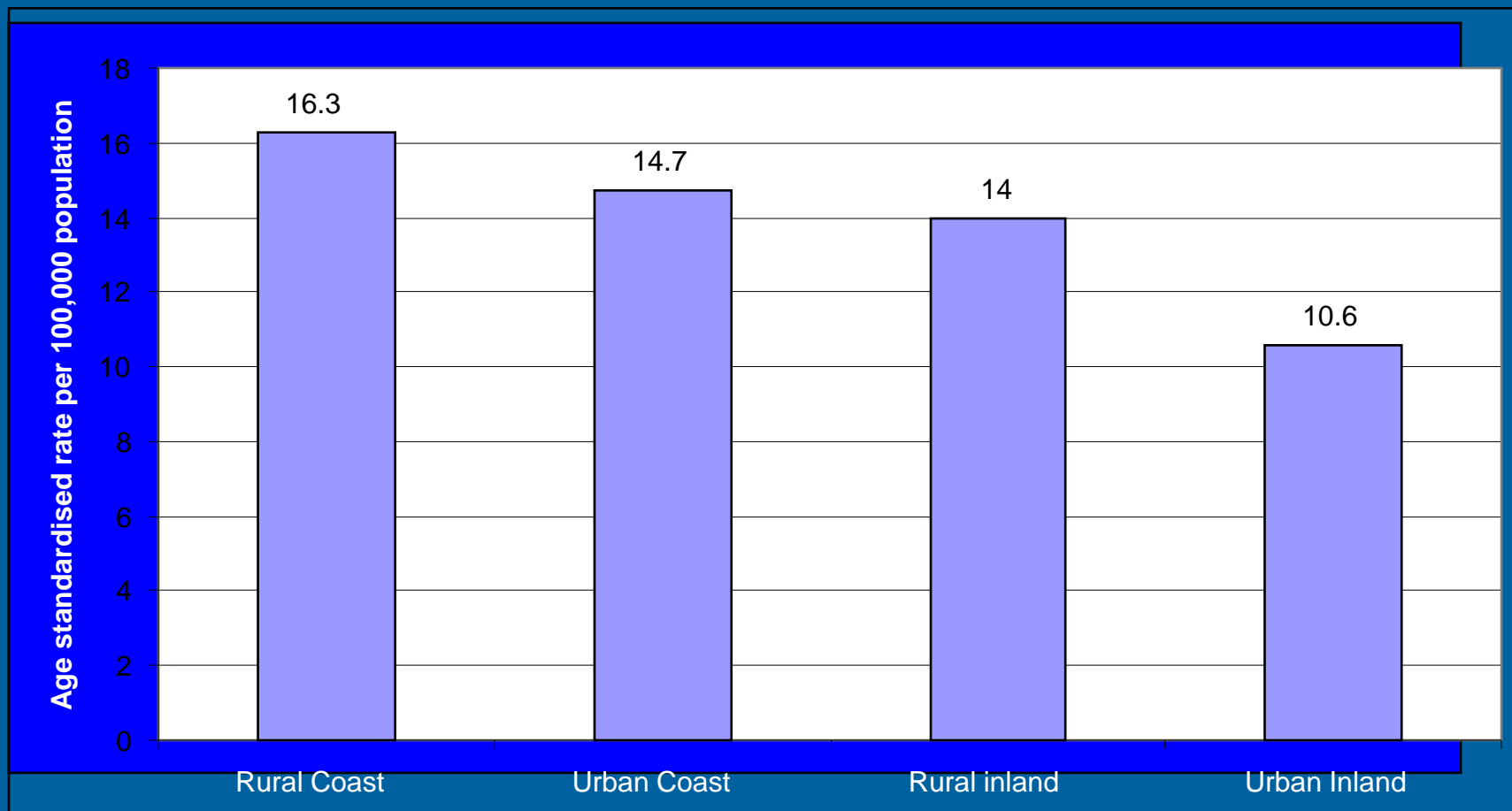


The 4-digit ICD-10 code records the anatomical site of each tumour. C430 to C434 codes are grouped as head and neck; C435 as trunk; C436 as upper limb, including shoulder; C437 as lower limb, including hip; and C439 as skin with unspecified tumour site

Source: National Cancer Data Repository

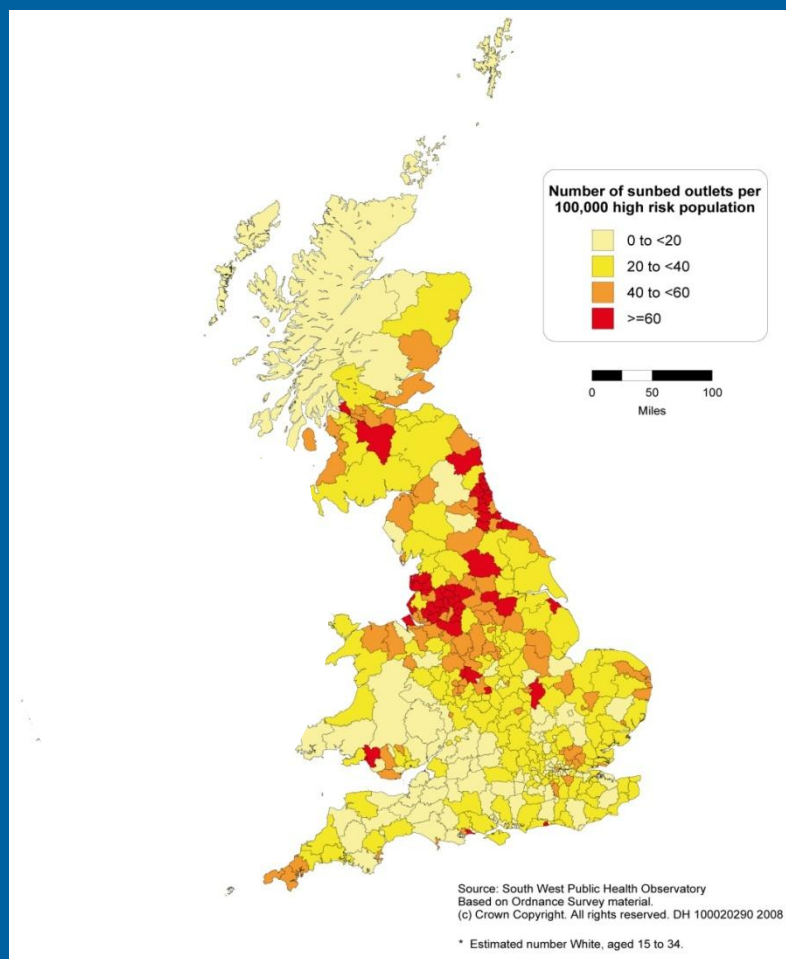
Malignant Melanoma incidence (ASR) in coastal/urban areas of the South West.

Rates standardised to standard European population

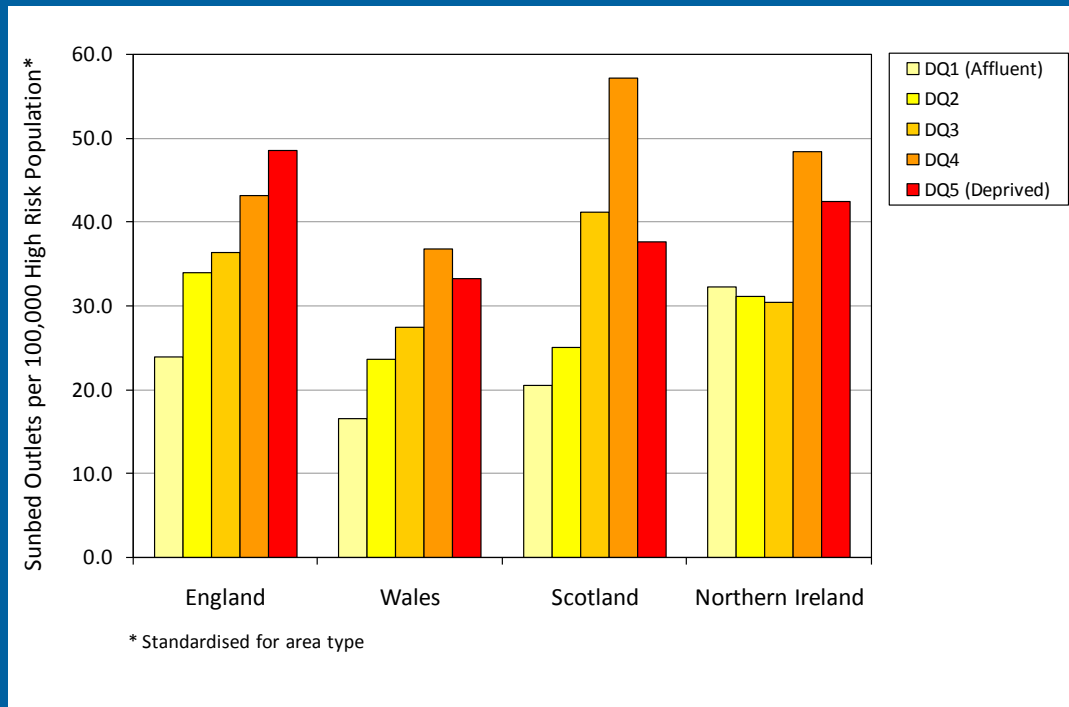


Source: South West Public Health Observatory

Sunbed outlets per 100,000 high risk* population; UK Local Authority areas, 2006

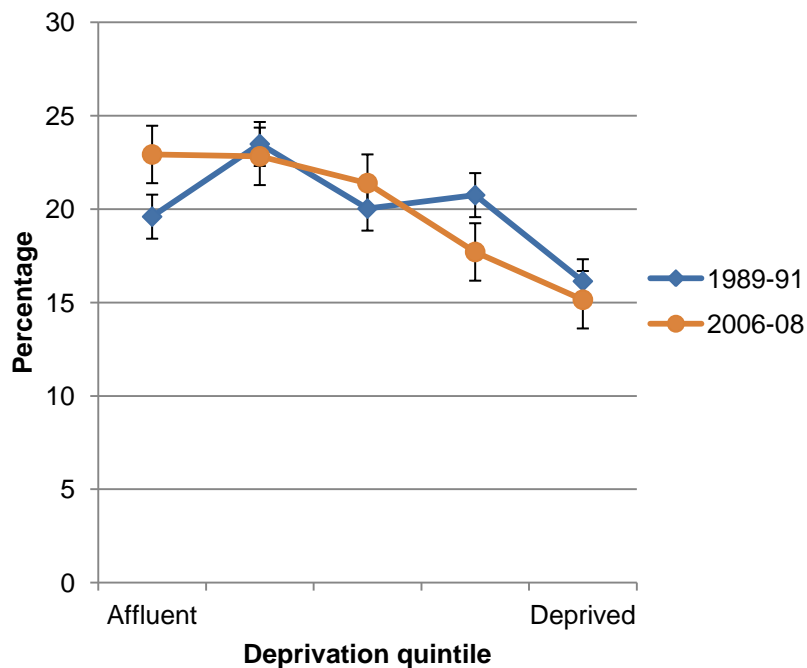


Sunbed outlets per 100,000 'high risk' population by national deprivation quintile

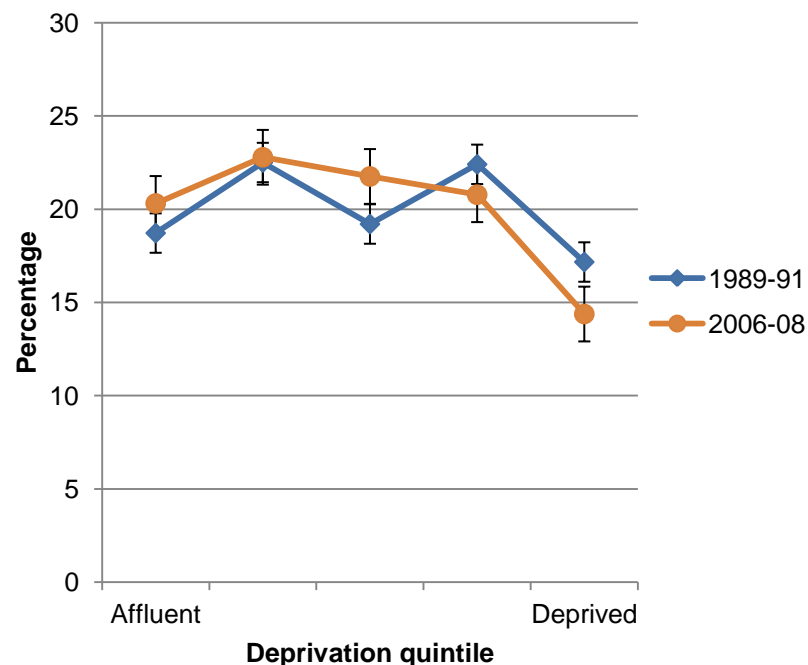


Distribution of MM by deprivation in the South West

Distribution of MM by deprivation - 3 year aggregate value (Male, South West)

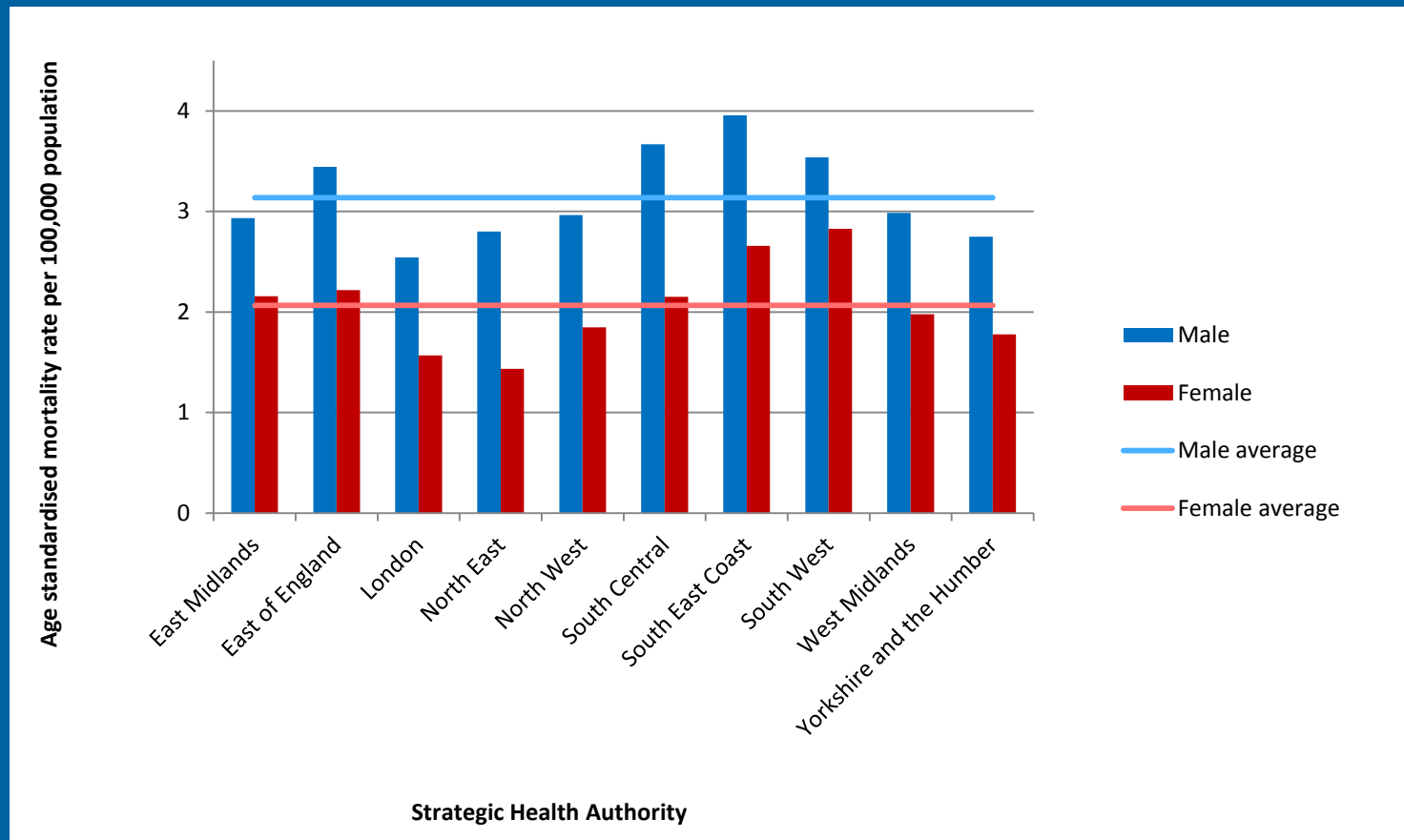


Distribution of MM by deprivation - 3 year aggregate value (Female, South West)



Source: South West Public Health Observatory

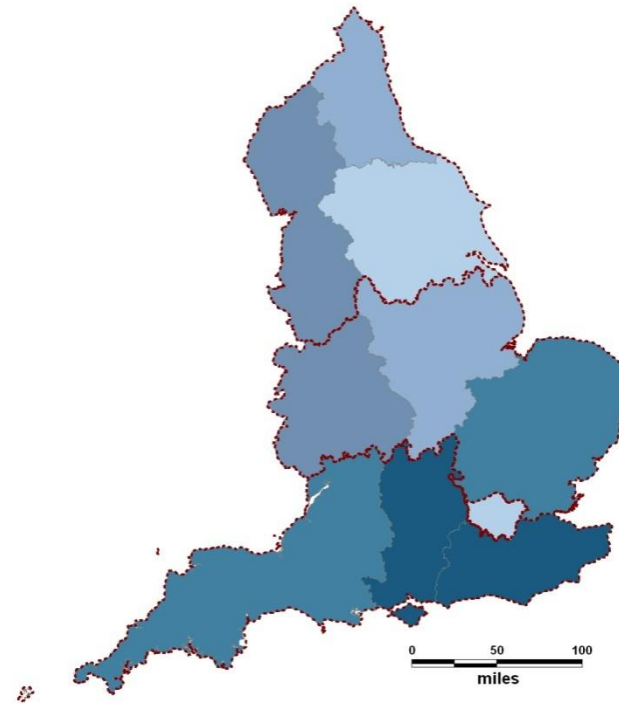
Age standardised mortality rate for malignant melanoma in England – 2008-10



Source: ONS Mortality Data

Mortality from malignant melanoma by SHA

Mortality from Malignant Melanoma in Males, by SHA, 2008-10

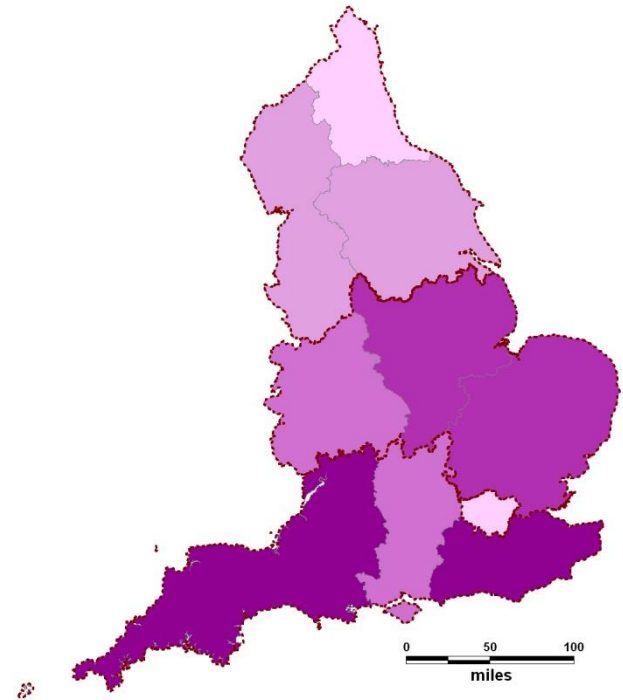


Mortality from Malignant Melanoma in Males
Age-standardised rate per 100,000

SHA Boundaries
SHA Clusters

Source: South West Public Health Observatory
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Mortality from Malignant Melanoma in Females, by SHA, 2008-10



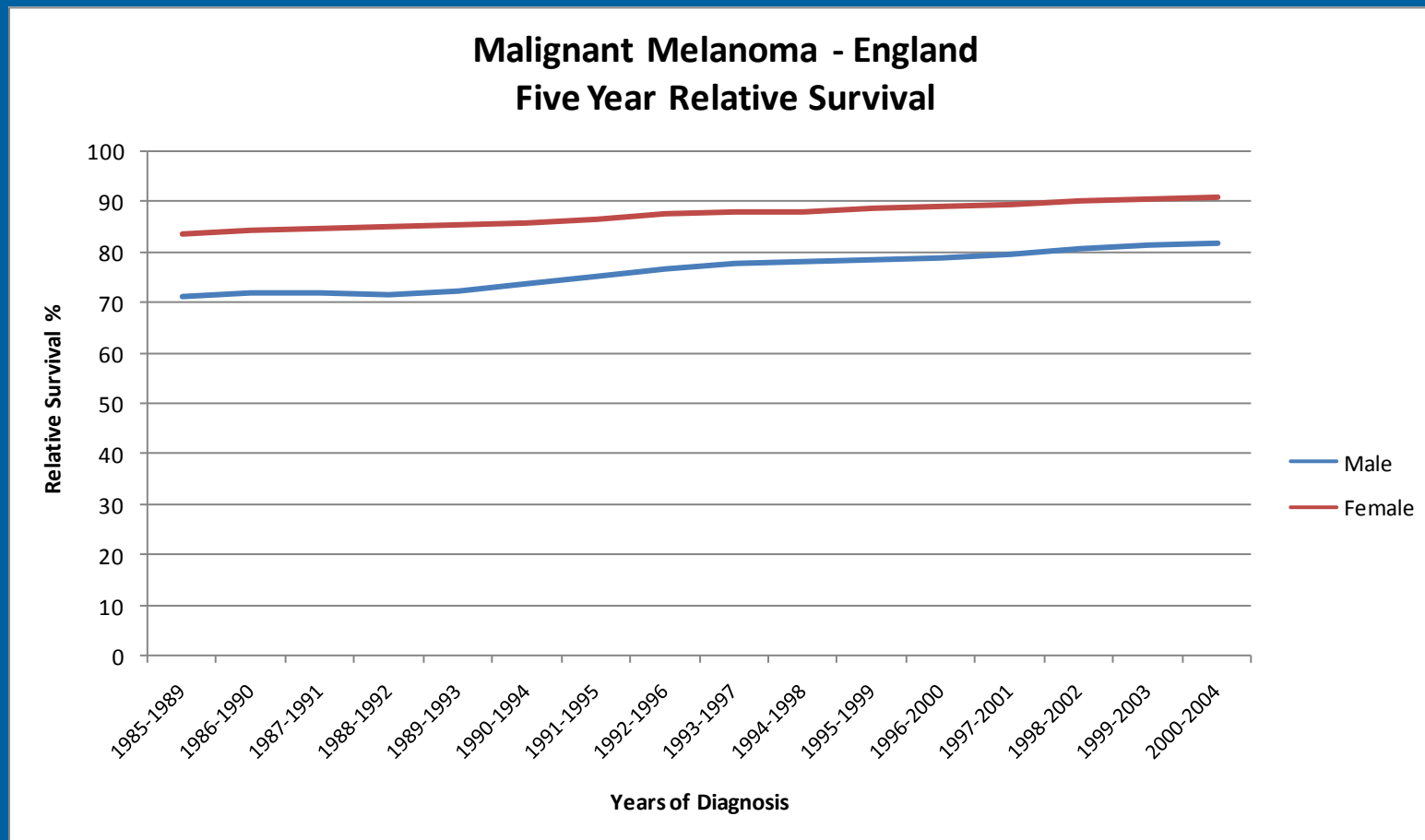
Mortality from Malignant Melanoma in Females
Age-standardised rate per 100,000

SHA Boundaries
SHA Clusters

Source: South West Public Health Observatory
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Source: ONS
Mortality Data

MM survival in England



Source: UK Cancer Intelligence Source

Possible factors influencing variation across England

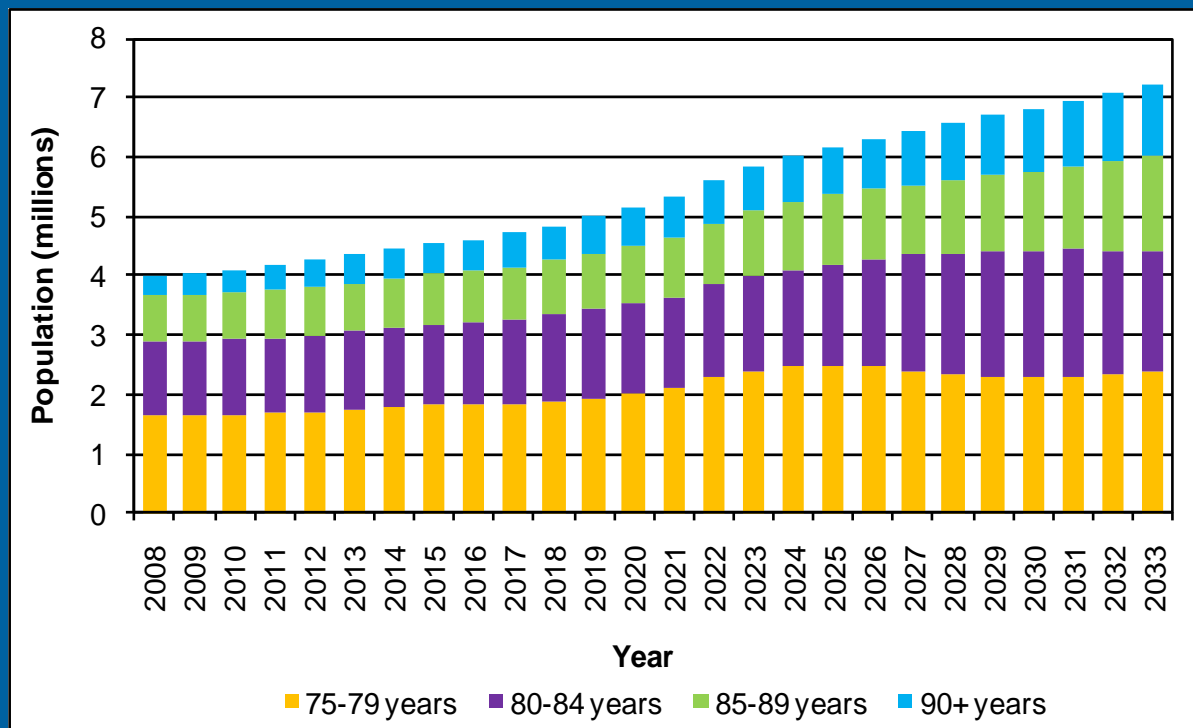
Incidence

- Composition of the population
- Socioeconomic distribution
- Sun and UV light exposure

Mortality

- High incidence
- Level of awareness and late presentation
- Variation of care provision and delivery

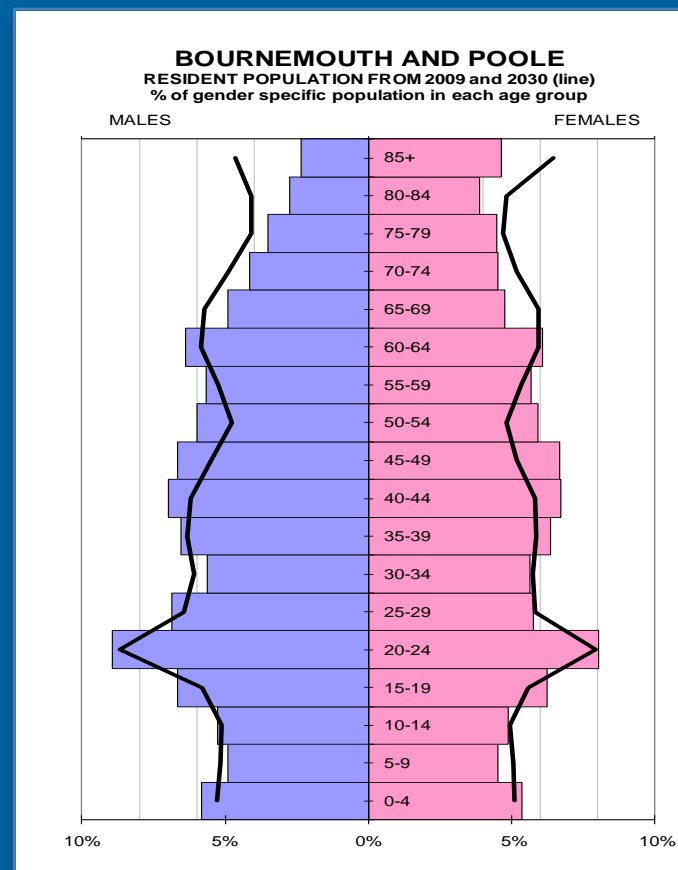
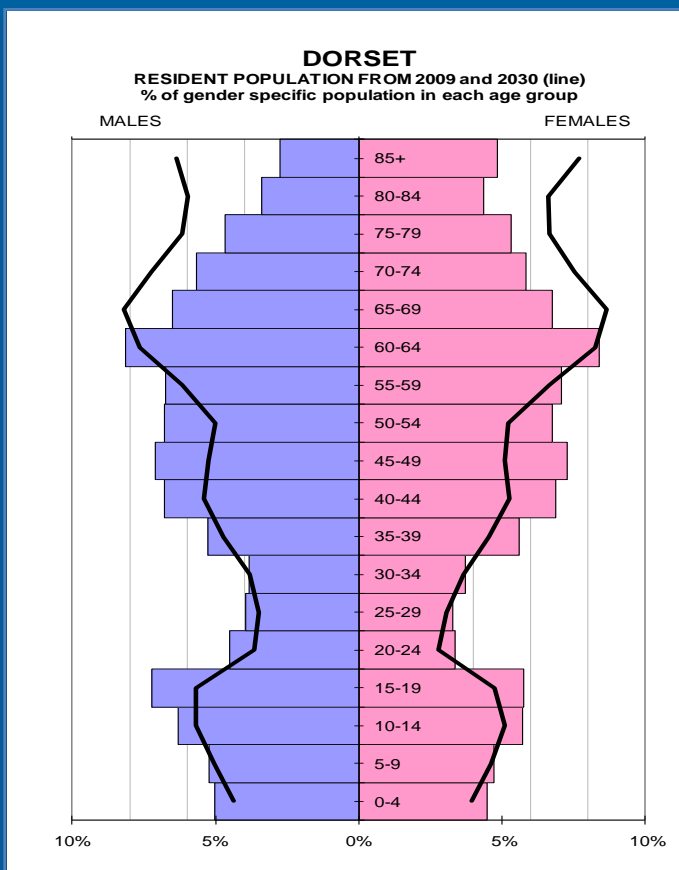
Projected population of people aged 75 and over by age group, England 2008–33 (based on estimated population in 2008)



Source: South West Public Health Observatory from Office for National Statistics data (2008-based National Population Projections)

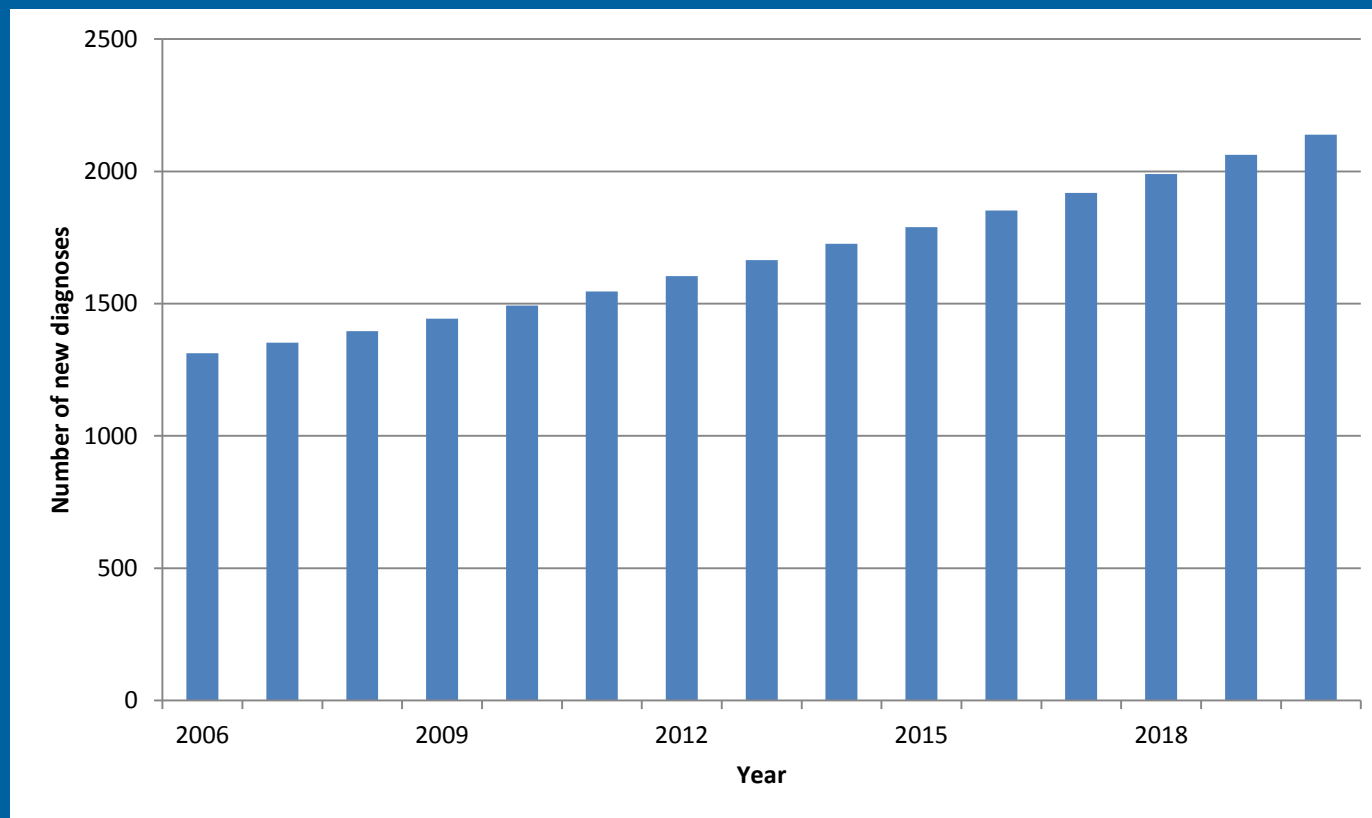
Growing and ageing population

Comparing 2009 and 2030



Source ONS

Predicted number of new diagnosis of melanoma (ICD10 C43) in the South West region 2006-2020.



Source : SWPHO cancer register (2006 data), ONS sub national population projections, predicted change in melanoma rates. Based on *H Moller et al. BJC(2007) 96, 1484.1488*

Non-melanoma skin cancer

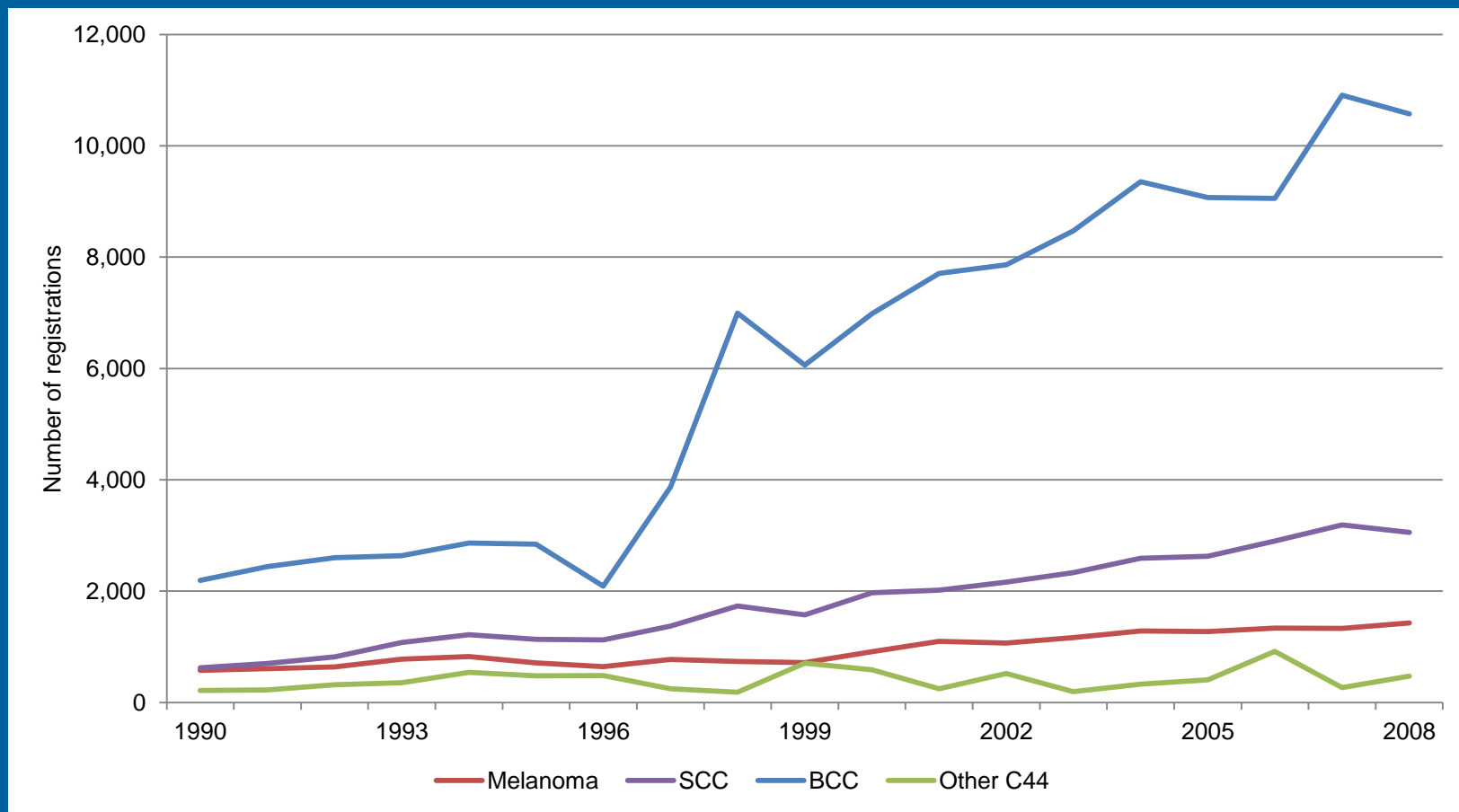
Non Melanoma Skin Cancer:

Squamous Cell Carcinoma and Basal Cell Carcinoma

Very high and underestimated number of Non Melanoma Skin Cancers

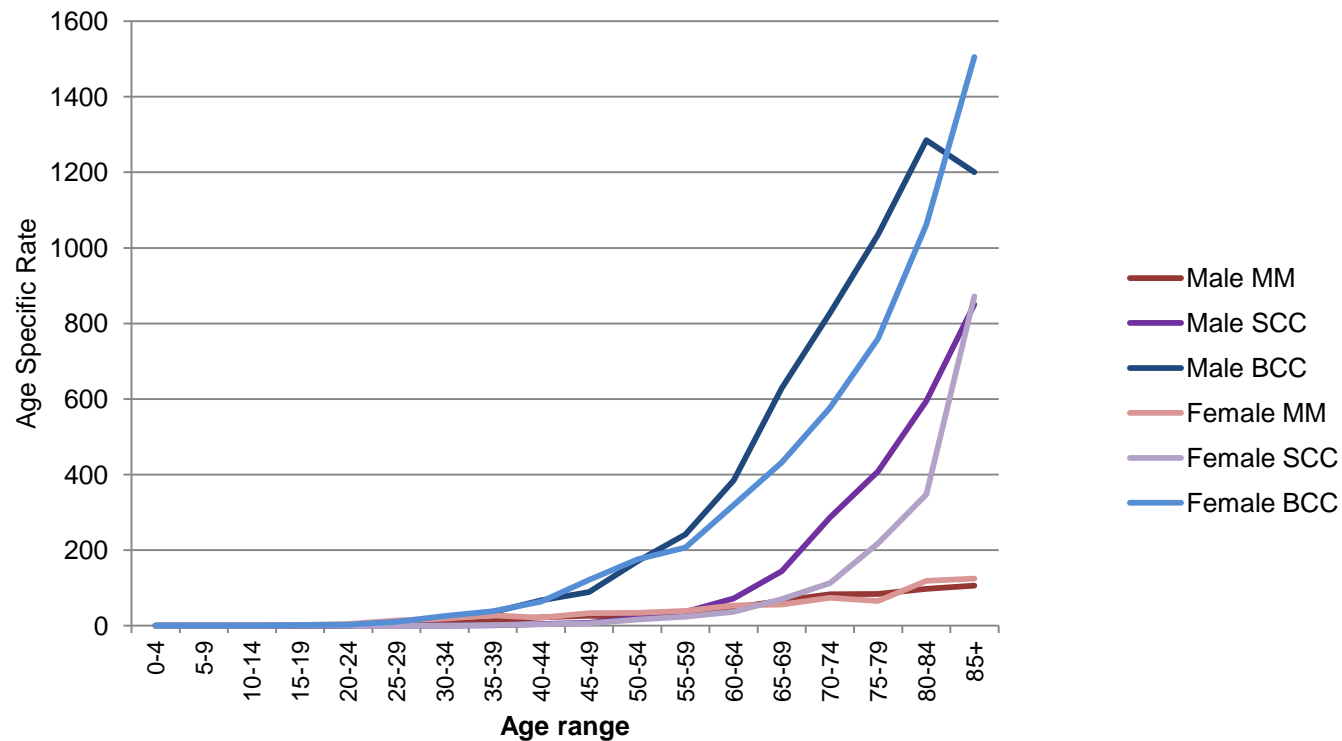
- 10 times more common than Malignant Melanoma
- Often arise in surgically difficult anatomical sites
- Associated with high morbidity and can impact on quality of life
- Metachronous tumours
- Burden on the NHS

Recorded Skin Cancer in the South West



Source: South West Public Health Observatory

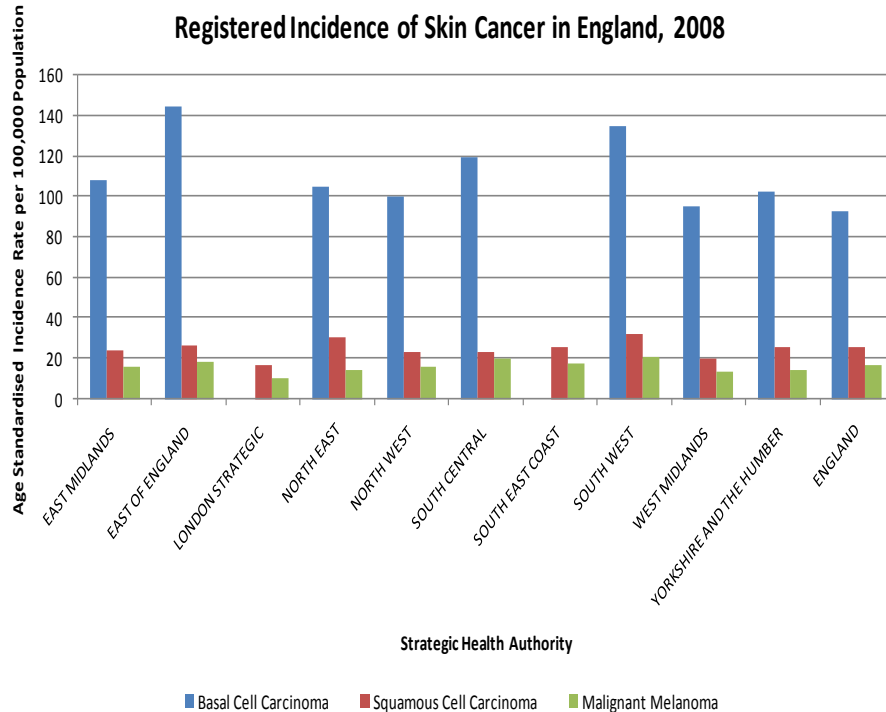
South West Skin Cancer Age Distribution, 2008



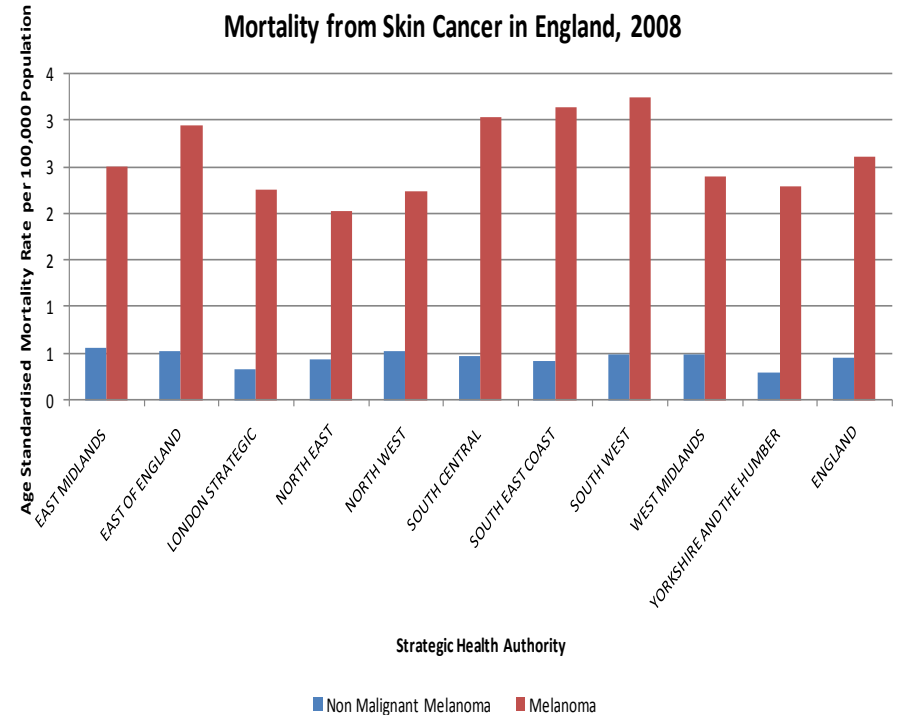
Source: South West Public Health Observatory

Skin cancer incidence and mortality in England

Registered Incidence of Skin Cancer in England, 2008

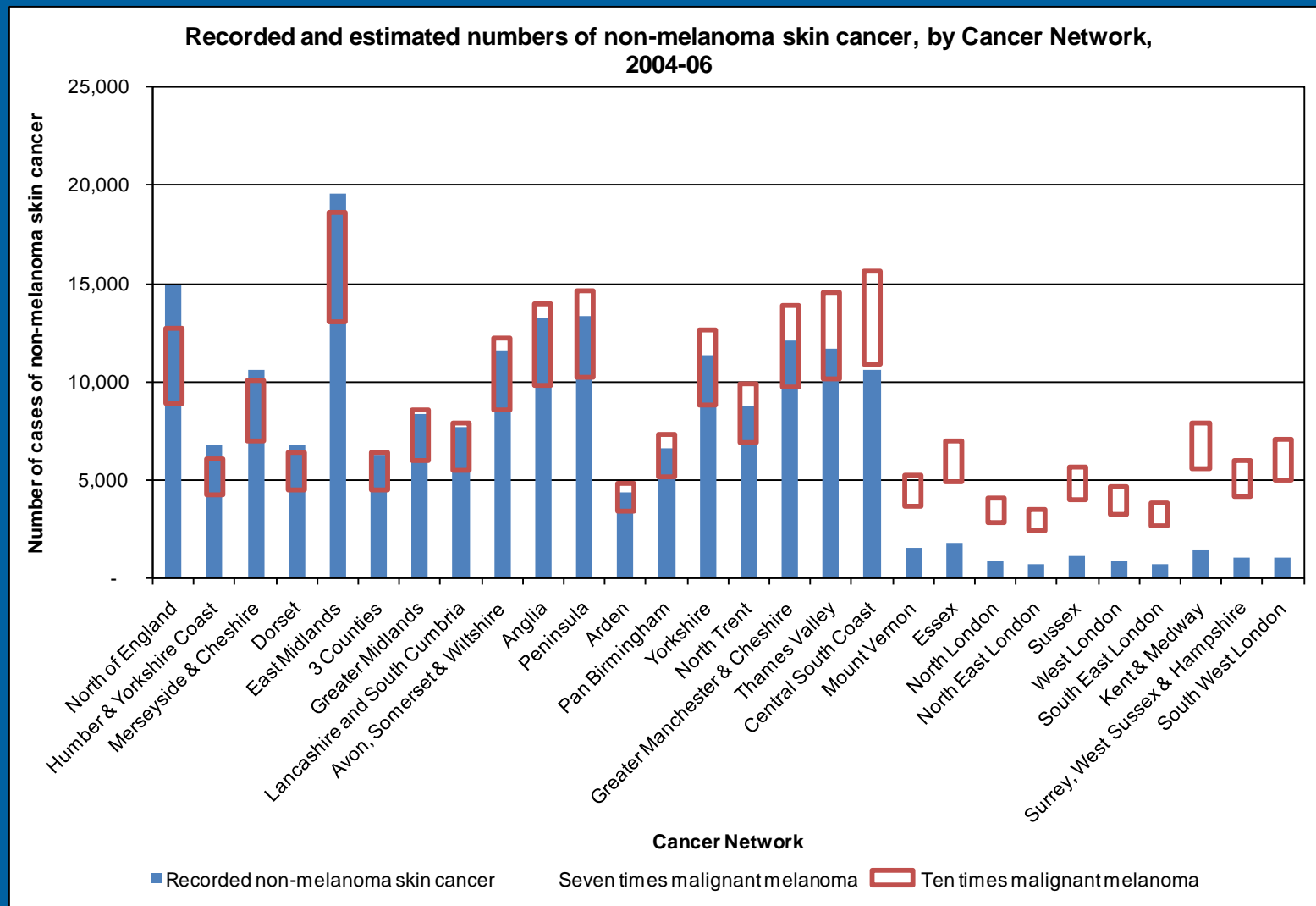


Mortality from Skin Cancer in England, 2008



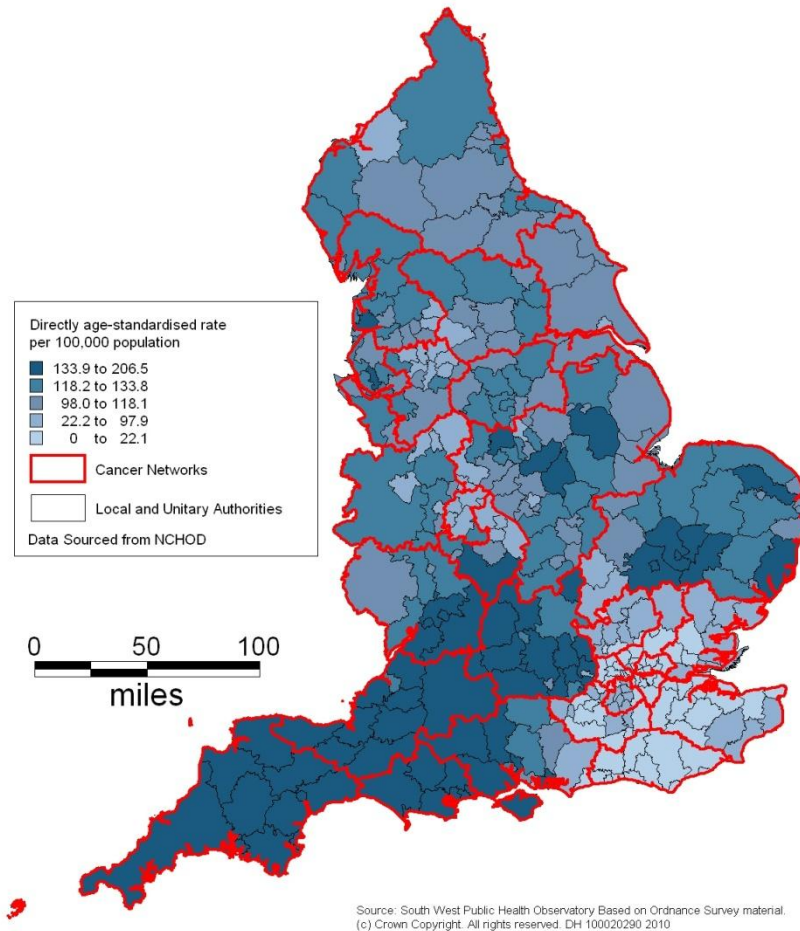
Source: National Cancer Data Repository

Applying estimates to cancer networks

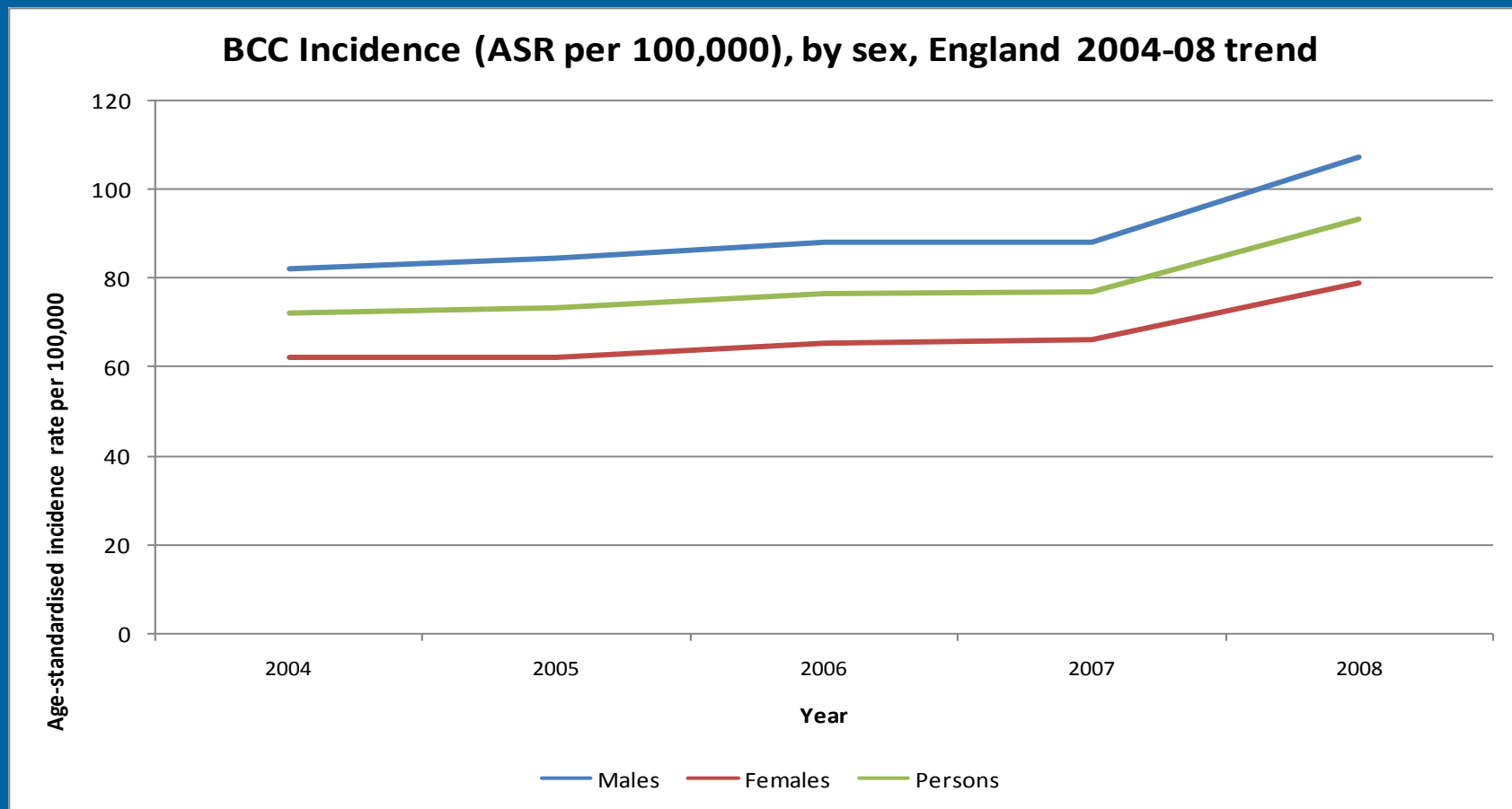


The 'incidence' of non-melanoma skin cancer

Incidence rate of Non-Melanoma Skin Cancer 2004-06,
by Local/Unitary Authority

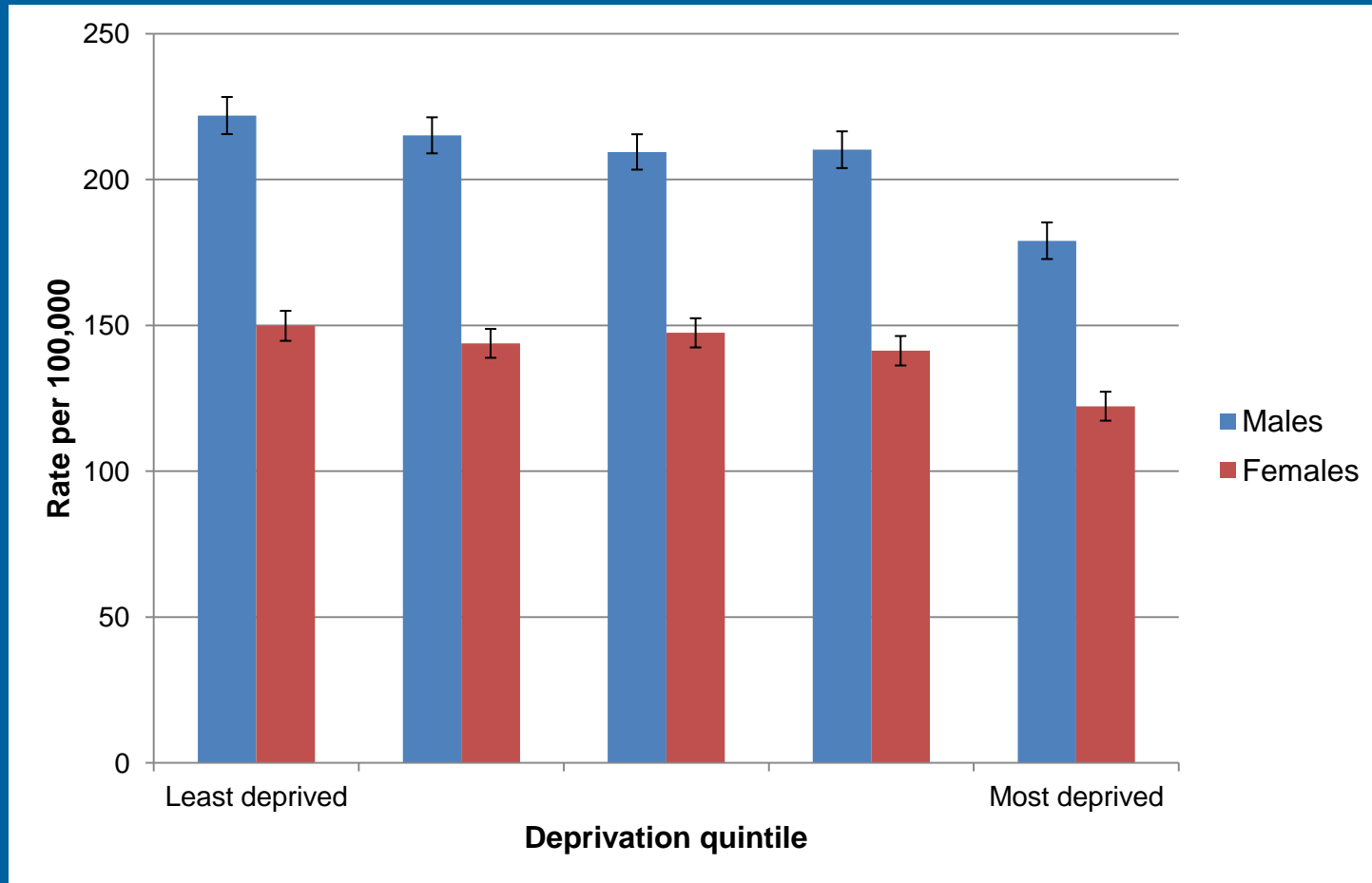


BCC Incidence (ASR per 100,000), by sex, England 2004-08 trend



Source: National Cancer Data Repository

Figure 4: Age standardised incidence rates for non-melanoma skin cancer in the South West Region by deprivation quintile (2006-2008). Rates standardised to standard European population



Source: South West Public Health Observatory

Percentage of treatment given and tumour type

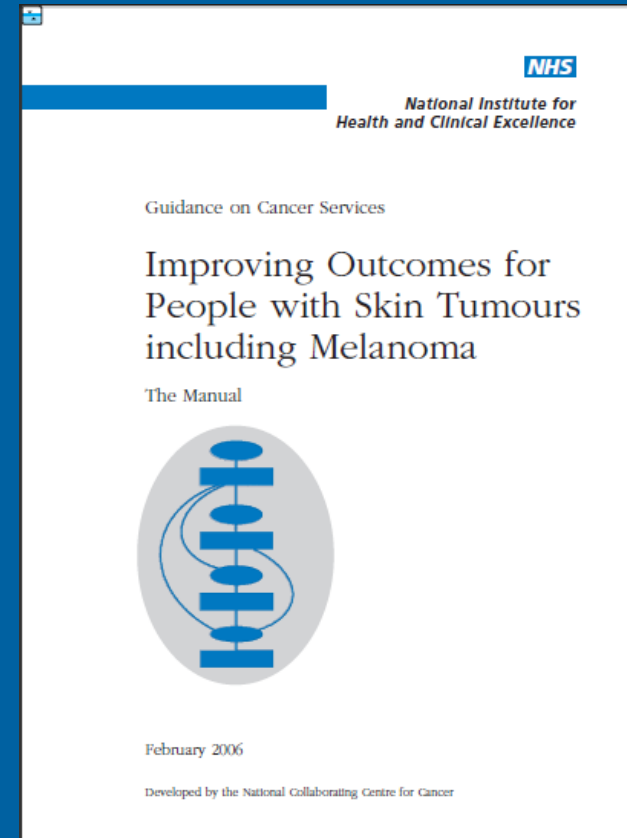
	Tumour type		
	BCC	SCC	MM
	%	%	%
Topical treatment	3	2	0
Curretage	7.5	4.5	0
Excision and direct closure	56	55	85
Complex repair	26	35	18

Note: % do not add up to 100

Source: Assessment of skin cancer presentation in the South West and Hampshire in 2008

Commissioning Challenges for Skin Cancer

- Implementation of NICE Commissioning Guidance (2006 and 2010)
- Ensure enhanced performance against
- Skin Cancer Standards
- Implementation of NICE Prevention
- Guidance
- Implementation of Sun-bed Legislation



Commissioning

- Needs assessment
- Evidence base/guidance for service provision or interventions
- Assessment of current service provision (including quality)
- Identify money
- Negotiate service change
- Local Quality Assurance

Challenges for Skin Cancer improvement

- Barely touches commissioning radar
- Not perceived as a major public health issue (doesn't kill)
 - Except occasional flurries about prevention
- Not much inpatient activity
- Not seen as a burden on NHS resources

Responding to Change

- Increasing incidence and demographics
- New technologies
- Commissioning arrangements
- Mixed Economy Providers
- Public Health to Local Authorities
- PROMS

Cost of Skin Cancer in England

Prof Steve Morris from UCL Research Department of Epidemiology and Public Health, University College London was commissioned to calculate the the current financial cost of skin cancer in England.

- Three methods were considered:
- Bottom up data
- Top down data
- PCT spending data

Bottom up approach

- Using a simplified model of skin cancer care in the NHS
- Based on guidelines produced by the BAD for the management of MM (Marsden et al 09), BCC (Telfer et al 08), SCC (motley et al 09).
- On Health guides from the Map of Medicine website for MM and BCC.
- Using Unit costs obtained from published national average for England, published reports etc (Keogh-Brown et al 2007, Thomas et al, 2000, Curtis 2008) etc.
- Using NHS reference costs from 2 time period (different HRG Healthcare Resource Groups) classification system.
- MM Data from ONS 2006-08 and MNSC estimates using SWPHO model
- Assumption of 12 cases of benign cases for every MM case (Goulding et al 2009, Jackson et al, 2000)

Top down data – data driven

- NHS cost were calculated using data on the number of general practitioner consultations, inpatient stays, day cases and outpatients visits due to skin cancer.
- Cost of skin cancer comprises costs to NHS, cost incurred by patients and indirect cost
- Unit cost were taken from published national sources and applied to each category to give an overall estimate of the cost to the NHS of skin cancer.
- Indirect cost arising from individual inability to function in their usual role were estimated from incapacity benefits claims and death registration from Skin Cancer
- 2008 estimates projected to 2020 based on published estimates of the future incidence of MM (Diffey 2004)

PCT spending data

- Based on the establishment of a dataset containing variable on incidence of skin cancer, skin cancer mortality and NHS expenditure on skin cancer for all PCTs in England. Various sources of data were used including Extrapolation of NMSC was done using a methodology developed by SWPHO. 2008-09
- Data on incidence were obtained from the National Centre for Health Outcomes Development (NCHOD) – 2004-06
- Counts of MM by PCT were obtained from cancer registries and NMSC estimates used SWPHO model of calculation.
- Data on Skin Cancer expenditure were obtained from the 2008-09 Cancer Network Workbook version 1.0 from the National Programme Budget project webpages (doh)
- Skin Cancer expenditure per 1000 population for each year was calculated based on raw population estimate for PCTs.

Overall costs for England obtained from 3 methods

- Total financial cost to the NHS were calculated to e £106,418,000 (bottom up approach)
- NHS costs were estimated to be £112.4 million (bottom down approach)
- Total national spending on skin cancer in England £105,194,000 (PCT spending data)
- Skin Cancer represented 2% of the total national spending on all cancers and tumours.
- The data suggest that in general skin cancer spending by PCTs and both skin cancer incidence and mortality are positively correlated



Skin Cancer Hub

Information to support prevention and early diagnosis

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Skin Cancer Hub

Welcome

This website is managed by the [South West Public Health Observatory \(SWPHO\)](#). Its aim is to equip health professionals and others with information to promote skin cancer prevention and early diagnosis.



Interventions database

Search for or add details of skin cancer prevention and awareness activities taking place in your area and across England.

[read more](#)



Worried about skin cancer?

Where to go for information and advice on skin cancer prevention and early diagnosis for you and your family.

[read more](#)



Resources

What we currently know about skin cancer, including links to the latest available data, guidance and prevention tools.

[read more](#)



Skin cancer profiles

Compare key skin cancer statistics and trends across England using this interactive mapping tool.

[read more](#)



Social marketing

Information on how social marketing can be used to target prevention messages.

[read more](#)



Toolkits

Step-by-step guidance on commissioning for skin cancer prevention.

[read more](#)

Account

Welcome: Juliet

Last Login: 14 Oct 2011

[Juliet's Profile](#)

There are 3 resources ready to approve

[Logoff](#)

Submitted

[Assessment of skin cancer presentation in the South West Region and Hampshire](#)

[Assessment of skin cancer presentation in the South West Region and Hampshire](#)

[Assessment of skin cancer presentation in the South West Region and Hampshire](#)

All Rejected

[Skin Cancer Awareness Fair](#)

[Well established website supplying large range of UPF 50+ UV Sun Clothing, Swimwear, Sun hats and sun protection products for all ages. Online orderin](#)

[One of 10 Activity Resources aimed at pre-school children, parents and toddlers and childrens centres. The toddlers Toolkit - Sun Safety pages provide](#)

[Under Cover - Promotion of Sun Safe](#)