

CANCER IN TASMANIA
INCIDENCE AND
MORTALITY
1995

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Estimated Resident Population by Age Groups, Tasmania at 30 June 1995

Years	Males	Females	Persons
0-4	17395	16702	34097
5-9	18025	17236	35261
10-14	18735	18055	36790
15-19	17475	16479	33954
20-24	17588	16662	34250
25-29	16419	16226	32645
30-34	17888	18636	36524
35-39	18383	18702	37085
40-44	17347	17307	34654
45-49	16432	16062	32494
50-54	12863	12481	25344
55-59	10849	10726	21575
60-64	9329	9635	18964
65-69	9181	9577	18758
70-74	7440	8950	16390
75-79	4775	6788	11563
80 & over	4417	8257	12674
All ages	234541	238481	473022

The ageing population of Tasmania

Following the 1991 census, it was estimated that the median age had increased from 26.9 to 33.0 years in males, and from 27.8 to 34.3 years in females since the 1976 census. In 1993-1995, the life expectancy of Tasmanians was lower than the life expectancy of all Australians.

Life Expectancy in Tasmania in 1993-1995

	At birth	At 60 yrs	At 80 yrs
Males	73.93 yrs	18.68 yrs	6.62 yrs
Females	79.90 yrs	22.93 yrs	8.59 yrs

Life Expectancy in Australia in 1993-1995

	At birth	At 60 yrs	At 80 yrs
Males	74.95 yrs	19.45 yrs	6.99 yrs
Females	80.84 yrs	23.68 yrs	8.85 yrs

Buccal Cavity and Pharynx - 140-149

- 140. Lip
- 141. Tongue
- 142. Salivary Gland
- 143. Gum
- 144. Floor of Mouth
- 145. Other and Unspecified Parts of Mouth
- 146. Oropharynx
- 147. Nasopharynx
- 148. Hypopharynx
- 149. Other and Ill-defined Sites within the Lip, Oral Cavity and Pharynx

Digestive Organs and Peritoneum - 150-159

- 150. Oesophagus
- 151. Stomach
- 152. Small Intestine
- 153. Colon
- 154. Rectum, Rectosigmoid Junction and Anal Canal
- 155. Liver and Intrahepatic Bile Ducts specified as Primary
- 156. Gall Bladder and Extrahepatic Bile Ducts
- 157. Pancreas
- 158. Peritoneum and Retroperitoneal Tissue
- 159. Unspecified Digestive Organs

Respiratory System - 160-164

- 160. Nasal Cavities, Middle Ear and Accessory Sinuses
- 161. Larynx
- 162. Trachea, Bronchus and Lung
- 163. Pleura
- 164. Thymus, Heart and Mediastinum

Bone, Connective Tissue, Skin and Breast - 170-175

- 170. Bone and Articular Cartilage
- 171. Connective and Other Soft Tissue
- 172. Skin - Malignant Melanoma
- 173. Skin other than Melanoma
- 174. Female Breast
- 175. Male Breast

Genito-Urinary Organs - 180-189

- 180. Cervix Uteri (invasive)
- 181. Placenta
- 182. Body of Uterus
- 183. Ovary and Other Uterine Adnexa
- 184. Other and Unspecified Female Genital Organs
- 185. Prostate
- 186. Testis
- 187. Penis and Other Male Genital Organs
- 188. Bladder
- 189. Kidney and Other and Unspecified Urinary Organs

Other and Unspecified Sites - 190-199

- 190. Eye
- 191. Brain
- 192. Cranial Nerves, Spinal Cord, Meninges and Other Unspecified Parts

- 193. Thyroid Gland
- 194. Other Endocrine Glands
- 195. Other and Ill-defined Sites
- 199. Unspecified Site

Lymphatic and Hematopoietic Tissue - 200-208

- 200. Diffuse Non-Hodgkin's Lymphoma
- 201. Hodgkin's Disease
- 202. Other Lymphomas
- 203. Multiple Myeloma and Immunoproliferative Neoplasms
- 204. Lymphoid Leukaemia
- 205. Myeloid Leukaemia
- 206. Monocytic Leukaemia
- 207. Erythroleukaemias and Other Specified Leukaemias
- 208. Unspecified Cell Leukaemias

Comments on the use of ICD-9 code in this report

- 140. Lip: applies to squamous cell carcinomas arising from the mucosa or muco-epidermal junction.
- 152. Small intestine: includes sarcomas and carcinomas but lymphomas are coded to 200 or 202.
- 155. Liver: only those tumours proved by histological examination or special tests are included, others regarded as metastatic.
- 158. Peritoneum and Retroperitoneal tissue: on the advice of an authority on soft tissue tumours, primaries are being coded to 171.
- 162. Bronchus and Lung: includes only tumours considered to be primary.
- 171. Bone: includes only primary bone tumours.
- 172. Cutaneous melanoma: invasive lesions only included.
- 173. Non-melanoma skin: mortality rates only in this report.
- 180. Cervix Uteri: includes microinvasive lesions but not in-situ cancers.
- 188. Bladder: includes invasive tumours only.
- 196-199. Secondary sites: all coded under 199 if primary site unknown.
- 200 Lymphosarcoma & reticulosarcoma: only diffuse non-Hodgkin's lymphomas are included under this code number.
- 204-208. Leukaemias: certain changes have been made to 2060, 2070 and 2072 to incorporate them in the Acute Myeloid (AML) 2050 FABClassification (M1-M7)

Please note that none of the 3-digit ICD-9 codes have been changed (140-208). However, it must be pointed out that some of the 4-digit codes of ICD-9 have been expanded or condensed to concur with changes in pathology classifications and where numbers warrant this practice. As the International Agency for Research in Cancer (IARC) scientific publication Cancer in Five Continents is based on 3-digit codes, this modification does not affect international comparisons.

The 1995 report contains numbers of new cases and deaths, and crude, cumulative, and age standardised incidence and mortality rates of Tasmanian residents diagnosed with cancer. Melanoma of the skin is presented in more detail.

Incidence

Cancer incidence is defined as the number of cases first notified in a given population during a specific period. The incidence data in this report relate to cancer cases first diagnosed between January 1995 and December 1995 in persons who were residents of Tasmania at the time of diagnosis.

Mortality

The mortality data in this report relate to deaths from cancer, of people who were first diagnosed as having cancer while they were residents of Tasmania. The Registrar of Births, Deaths and Marriages provides the Tasmanian cancer registry with copies of death certificates of all people who have died in Tasmania. Tasmanian cancer patients who die in other States in many instances are notified to the Tasmanian cancer registry by other State or Territory cancer registries. Details of patients diagnosed interstate who die in Tasmania are forwarded to the relevant State cancer registry. Non cancer deaths of Tasmanian cases are also recorded so that survival rates can be calculated. Deaths from non-melanocytic skin cancers (NMSC) are reported but incidence is not. In 1995, eight deaths were attributed to NMSC in Tasmania (6 men and 2 women).

National Death Index (NDI)

During 1997, cases notified to the Tasmanian Cancer Registry between 1978 and 1996 and still thought to be living, were checked against

the NDI. This procedure alerted us to the fact that a considerable number of deaths of persons dying interstate had slipped through our net. All these deaths have now been added to our database.

Calculation of rates

Incidence and mortality rates were calculated per 100,000 population using the estimated Tasmanian population by age and sex for 1995 (Table 1) as supplied by the Australian Bureau of Statistics (ABS), Cat No. 3204.6.

Age-sex specific rates

These are calculated by dividing the numbers of cases in each 5 year age, sex and site specific stratum by the ABS population estimate for that stratum and then multiplying the result by 100,000.

Age standardised rates

These calculations are based on the World Standard Population Strata as described in *Cancer Incidence in Five Continents*, Volume IV, 1982, International Agency for Research in Cancer.

Cumulative rates

The cumulative rate (which is expressed as a percentage) is a good approximation of the risk which an individual would have of developing the disease in question if no other cause of death were to intervene. A cumulative rate of, say, 3.5% for melanoma in males would mean that one out of every 28 Tasmanian men would be expected to get melanoma by the age of 75 if he were not to die of another disease before that age. The corresponding rate from the 1995 data in women is one in 34.

During 1997, cancer data, analyses, graphics and intellectual input were provided to a number of organisations and individuals as listed below:

Tasmanian Department of Community and Health Services:

- Latest available breast, cervix and skin cancer data for review of Health Goals and Targets
- Paediatric cancers in Tasmania 1991-1995 by type of cancer and Region within Tasmania
- Cutaneous Malignant Melanoma incidence and mortality trends in Tasmanian men and women
- An analysis of cancer Incidence and Mortality in the West Coast mining towns for the Epidemiological Profile of the West Coast for the West Coast Rural Planning Project
- The observed and expected rates of cancers occurring on the West Coast and a consultation in the form of a statistical interpretation of this data
- Cancer incidence and mortality report for the Wynyard area during 1990-1994 by type of cancer
- Provision of age standardisation programs written by Menzies Centre biostatisticians for calculation of incidence and mortality data for other diseases
- Men's Health Project – Cancer incidence in Tasmanian men
- Data for "Ministerials" and other parliamentarians
- Mortality data for North West palliative care centre.

BreastScreen TASMANIA

Annual fast tracking of breast cancer cases into database to check for "interval breast cancers."

Tasmanian Cervical Cytology Register

Regular liaison with cytology register to ensure completeness of data.

International Association of Cancer Registries in Lyon France (IACR)

Tasmanian Cancer Registry data for the years 1988-1992 for inclusion in *Cancer Incidence in 5 Continents Volume VII*.

Australian Institute of Health and Welfare (AIHW)

Data for Cancer in Australia 1991-1994
Listings for National Death Index (NDI)
Data for AIHW monograph *Breast Cancer in Australian women 1921-1994*
Data for national breast cancer survival report in preparation.

Australian Bureau of Statistics Coding Centre in Queensland

WP Holman Clinics

Provision of data to radiation oncologists and cause of death data for oncology database.

Cancer Council of Tasmania

Australian Paediatric Cancer Registry

Australian Mesothelioma Registry

HEALTH WATCH: The Australian petroleum industry health surveillance program

Other state and territory cancer registries

Ongoing exchange of data for completeness and avoidance of duplicate registration

Patient information management services of public and private hospitals

Consultation for difficult neoplasm classifications

Launceston General Hospital

Monash University

National Breast Cancer Centre

National breast cancer management study

NSW Cancer Council

Peter MacCallum Institute in Victoria

Pharmacy Department, LGH

Royal Australasian College of Surgeons

Royal Brisbane Hospital

Royal Hobart Hospital

University of Sydney

Doctors, researchers and students

Media organisations

INCIDENCE - 1995			MORTALITY - 1995		
	MALES	%*		MALES	%*
Prostate	414	32.4	Lung	128	22.9
Lung	140	10.9	Prostate	82	14.7
Colon	95	7.4	Colon	45	8.1
Melanoma Of Skin	92	7.2	Rectum	32	5.7
Bladder	71	5.6	Stomach	29	5.2
Rectum	57	4.5	Pancreas	24	4.3
Kidney	39	3.0	Bladder	23	4.1
Lip	36	2.8	Kidney	23	4.1
Stomach	36	2.8	All Lymphomas	22	3.9
All Lymphomas	33	2.6	Oesophagus	19	3.4

* % of all new cases including 43 cancers of unspecified sites.

INCIDENCE - 1995			MORTALITY - 1995		
	FEMALES	%*		FEMALES	%*
Breast	257	26.0	Breast	74	16.3
Colon	93	9.4	Lung	64	14.1
Melanoma Of Skin	90	9.1	Colon	45	9.9
Lung	70	7.1	Ovary	23	5.1
Rectum	58	5.9	Stomach	22	4.8
All Lymphomas	40	4.0	Rectum	22	4.8
Ovary	35	3.5	All Leukaemias	20	4.4
All Leukaemias	33	3.3	Pancreas	18	4.0
Corpus Uteri	28	2.8	All Lymphomas	17	3.7
Cervix Uteri	27	2.7	Oesophagus	14	3.1

* % of all new cases including 56 cancers of unspecified sites.

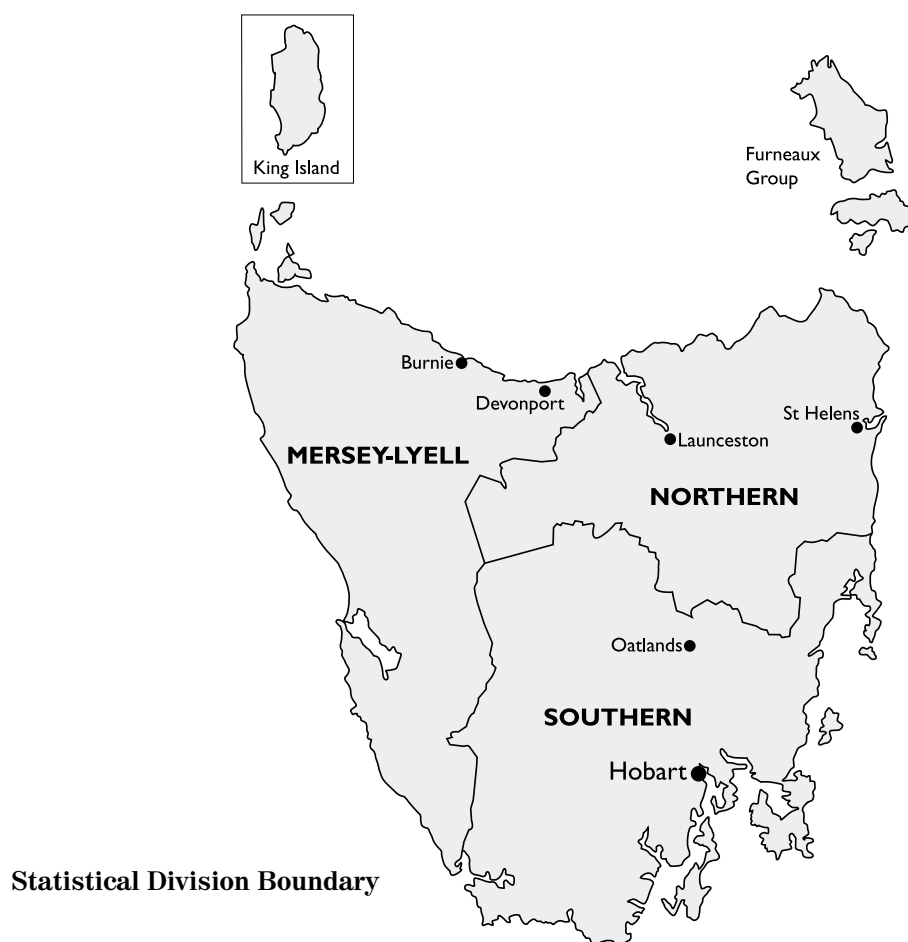
INCIDENCE - 1995			MORTALITY - 1995		
	PERSONS	%*		PERSONS	%*
Prostate	414	18.2	Lung	192	19.0
Breast	262	11.5	Colon	90	8.9
Lung	210	9.3	Prostate	82	8.1
Colon	188	8.3	Breast	74	7.3
Melanoma of skin	182	8.0	Rectum	54	5.3
Rectum	115	5.1	Stomach	51	5.0
Bladder	98	4.3	Pancreas	42	4.1
All lymphomas	73	3.2	All Lymphomas	39	3.8
Stomach	57	2.5	Kidney	34	3.4
All leukaemias	57	2.5	Oesophagus	33	3.3

* % of all new cases including 99 cancers of unspecified sites.

Regional Distribution of Incidence for all Sites with a minimum of 20 New Cases

ICD-9 Site	South 228268 (48%)	North 133434 (28%)	Mersey-Lyell 111320 (24%)	Total Population 473022* (100%)
185. Prostate	168 (41%)	142 (34%)	104 (25%)	414
174-5. Breast	118 (45%)	93 (35%)	51 (19%)	262
162. Lung	112 (53%)	58 (28%)	40 (19%)	210
153. Colon	97 (52%)	53 (28%)	38 (20%)	188
172. Melanoma of Skin	99 (54%)	48 (26%)	35 (19%)	182
154. Rectum	55 (48%)	39 (34%)	21 (18%)	115
199. Unspecified Site	41 (41%)	37 (37%)	21 (21%)	99
188. Bladder	50 (51%)	30 (31%)	18 (18%)	98
200-2. All Lymphomas	32 (44%)	24 (33%)	17 (23%)	73
151. Stomach	27 (47%)	20 (35%)	10 (18%)	57
204-8. All Leukaemias	42 (74%)	9 (16%)	6 (11%)	57
157. Pancreas	31 (64%)	9 (18%)	9 (18%)	49
189. Kidney	30 (59%)	11 (22%)	10 (20%)	51
140. Lip	19 (45%)	13 (31%)	10 (24%)	42
150. Oesophagus	20 (48%)	14 (33%)	8 (19%)	42
203. Multiple Myeloma	21 (58%)	9 (25%)	6 (17%)	36
183. Ovary	18 (51%)	8 (23%)	9 (26%)	35
182. Corpus Uteri	16 (57%)	4 (14%)	8 (29%)	28
191. Brain	10 (36%)	7 (25%)	11 (39%)	28
180. Cervix Uteri	12 (44%)	9 (33%)	6 (22%)	27
193. Thyroid	15 (71%)	3 (14%)	3 (14%)	21

* Estimated Resident Population at June 1995 (ABS)



CUTANEOUS MALIGNANT MELANOMA (CMM) IN TASMANIA 1978-1996

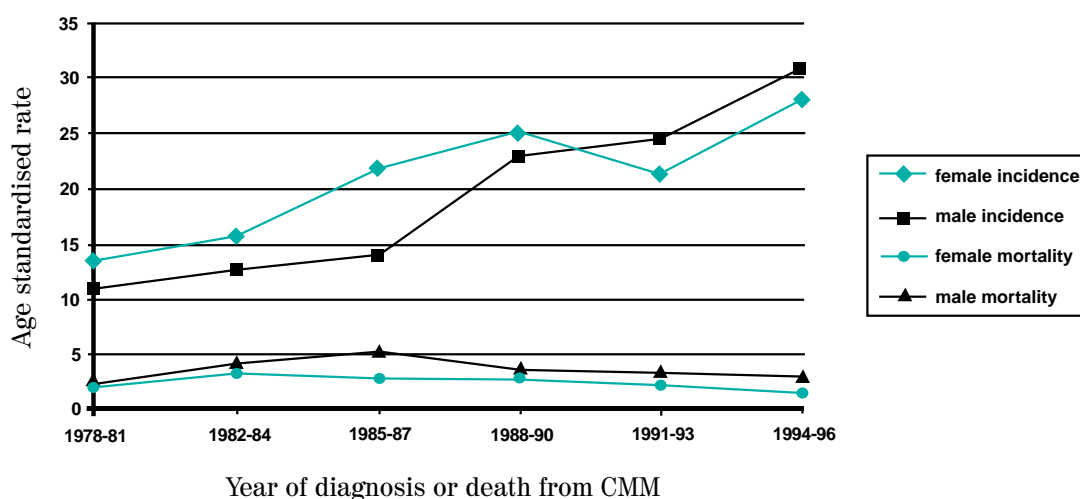
Incidence and mortality trends are reviewed for cases of CMM notified to the Tasmanian Cancer Registry between 1978 and 1996. During this time a total of 2045 new cases were registered and 288 deaths from CMM were recorded. Data for the 6 time periods were as follows:

Years	Incidence		Mortality	
	Males	Females	Males	Females
	ASR	ASR	ASR	ASR
1978-81	11.0	13.6	2.4	2.2
1982-84	12.7	15.7	4.0	3.2
1985-87	13.9	21.8	5.1	2.7
1988-90	22.8	25.2	3.4	2.7
1991-93	24.4	21.4	3.2	2.1
1994-96	30.7	28.0	2.8	1.3

Incidence

The age standardised rates (ASR) per 100,000 are the average annual rates. Data is presented in three year time periods with the exception of 1978-1981 for which four years of data are averaged. It is apparent from this analysis, that female incidence rates were higher than male incidence rates until 1989 but declined between 1990 and 1993. The incidence rate in males has risen more steeply than the rate in females in the period up to 1993 and male rates are now higher than female.

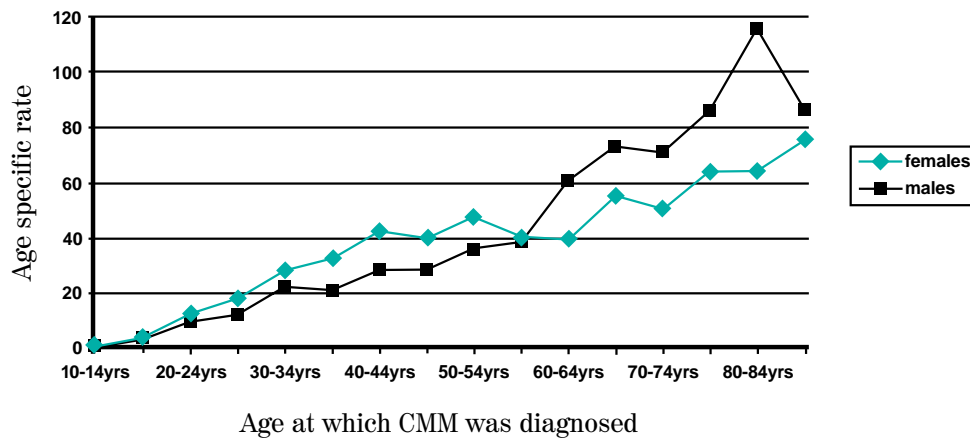
Figure 1: Melanoma incidence and mortality rates Males and Females 1978-1996



Mortality

Melanoma mortality rates have decreased since the 1985-1987 time period for both men and women but remain higher for men than women.

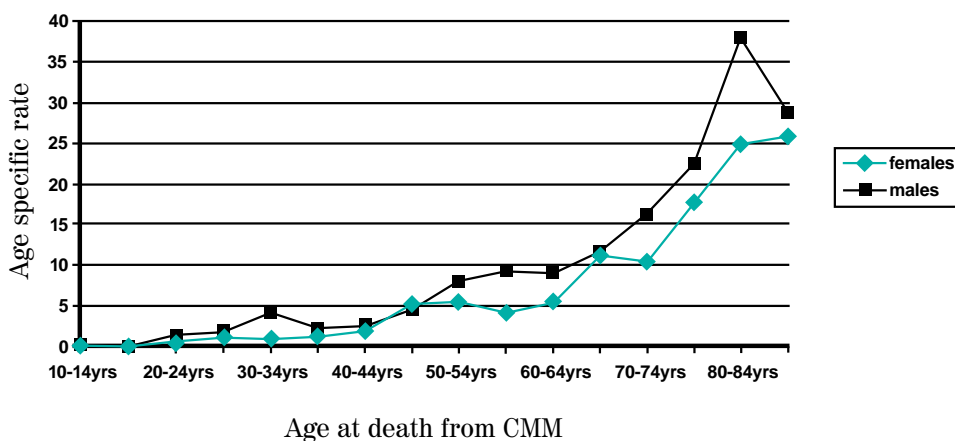
Figure 2: Age specific INCIDENCE rates of CMM for males and females, 1978-1996



Age specific incidence rates

Age specific incidence rates calculated in 5 year age groups indicate that incidence of CMM increases with age. In men the increase continues until 80 years of age after which it decreases in the 85+ age group. In women rates are higher than those in men until the age of 50-59 at which point the lines cross and female rates remain below those of male rates for all the older age groups.

Figure 3: Age specific MORTALITY rates of CMM for males and females, 1978-1996



Age specific mortality rates

Age specific mortality rates for males are generally higher than for females. Mortality rates increase steadily with age.

INCIDENCE

Summary Table
Tasmanian Cancer Incidence 1995

ICD-9 SITE	MALES			FEMALES			TOTAL	
	*N	CR	ASR	N	CR	ASR	N	
140.	Lip	36	5.5	12.0	6	0.9	1.5	42
141.	Tongue	4	0.6	1.1	2	0.3	0.5	6
142.	Salivary Gland	1	0.2	0.4	1	0.2	0.4	2
143.	Gum	0	0.0	0.0	1	0.2	0.4	1
144.	Floor of mouth	6	0.9	1.7	1	0.2	0.3	7
145.	Other Mouth	4	0.6	1.2	2	0.3	0.8	6
146.	Oropharynx	6	0.9	2.0	0	0.0	0.0	6
147.	Nasopharynx	1	0.2	0.3	0	0.0	0.0	1
148.	Hypopharynx	6	0.9	2.0	0	0.0	0.0	6
149.	Other Pharynx	2	0.3	0.8	0	0.0	0.0	2
150.	Oesophagus	25	3.8	7.0	17	2.6	4.0	42
151.	Stomach	36	5.5	10.2	21	3.2	5.2	57
152.	Small Intestine	2	0.3	0.8	5	0.8	2.0	7
153.	Colon	95	14.5	29.8	93	14.0	23.6	188
154.	Rectum	57	8.7	17.2	58	8.7	14.3	115
155.	Liver	9	1.4	3.3	5	0.8	2.2	14
156.	Gall Bladder	6	0.9	1.7	7	1.1	1.8	13
157.	Pancreas	30	4.6	8.6	19	2.9	4.1	49
160.	Nasal Cavities	3	0.5	0.9	0	0.0	0.0	3
161.	Larynx	11	1.7	3.1	5	0.8	1.4	16
162.	Lung	140	21.4	45.0	70	10.5	20.1	210
163.	Pleura	2	0.3	0.5	4	0.6	0.9	6
164.	Thymus	0	0.0	0.0	4	0.6	0.8	4
170.	Bone	5	0.8	1.7	3	0.5	1.4	8
171.	Soft tissues	13	2.0	4.7	6	0.9	1.8	19
172.	Melanoma of Skin	92	14.1	32.4	90	13.5	29.4	182
173.	Skin	Incidence of non-melanocytic skin cancer is not recorded						
174-5.	Breast	5	0.8	1.8	257	38.7	81.5	262
180.	Cervix Uteri	0	0.0	0.0	27	4.1	9.4	27
181.	Placenta	0	0.0	0.0	0	0.0	0.0	0
182.	Corpus Uteri	0	0.0	0.0	28	4.2	8.3	28
183.	Ovary	0	0.0	0.0	35	5.3	9.9	35
184.0	Vagina	0	0.0	0.0	1	0.2	0.2	1
184.1	Vulva	0	0.0	0.0	5	0.8	0.9	5
185.	Prostate	414	63.2	121.3	0	0.0	0.0	414
186.	Testis	16	2.4	5.7	0	0.0	0.0	16
187.	Penis	1	0.2	0.2	0	0.0	0.0	1
188.	Bladder	71	10.8	21.0	27	4.1	6.6	98
189.	Kidney	39	6.0	12.8	12	1.8	3.6	51
190.	Eye	3	0.5	1.3	0	0.0	0.0	3
191.	Brain	14	2.1	4.8	14	2.1	6.3	28
192.	Other CNS	1	0.2	0.4	1	0.2	0.3	2
193.	Thyroid	2	0.3	0.9	19	2.9	6.1	21
194.	Other Endocrine	0	0.0	0.0	0	0.0	0.0	0
199.	Unspecified Site	43	6.6	12.9	56	8.4	13.0	99
200-2.	All Lymphomas	33	5.0	11.3	40	6.0	13.6	73
202.3-6	Histiocytic Tissue	0	0.0	0.0	0	0.0	0.0	0
203.	Multiple Myeloma	21	3.2	6.0	15	2.3	2.8	36
204-8.	All leukaemias	24	3.7	8.4	33	5.0	10.2	57
140-208	Total new cases	1279	195.3	397.2	990	149.0	289.6	2269

* N=Number CR=Crude Rate ASR=Age Standardised Rate