

# 18. Cancer of the Bladder

ICD-9 188

## KEY FACTS

- On average 203 cases of cancer of the bladder were registered per year.
- 2 in 3 cases occur in males.
- 3% male cancers, 1% female cancers.
- No significant variation by area.

On average, over the 1993-95 period, 203 cases of bladder cancer were registered each year. Over two thirds (68%) of cases occurred in males. Bladder cancer was the seventh most commonly diagnosed cancer in males, thirteenth in females and accounted for over 3% of all male cancers and over 1% of all female cancers. The number of cases diagnosed was about 2.5 times the number of deaths registered.

Table 44 Summary Statistics

Year	MALES			FEMALES		
	1993	1994	1995	1993	1994	1995
<b>INCIDENCE</b>						
Incident Cases	152	129	145	53	60	70
Crude Rate (per 100,000)	19.08	16.09	18.01	6.35	7.14	8.30
Cumulative Risk (0-74) (%)	1.64	1.37	1.50	0.42	0.36	0.60
WASR (per 100,000)	14.20	11.71	13.02	3.23	3.25	4.72
EASR (per 100,000)	21.90	18.29	19.73	4.96	5.20	6.93
% of All Cancers	3.60	3.00	3.57	1.20	1.39	1.63
<b>DATA QUALITY</b>						
Mortality : Incidence Ratio	0.40	0.40	0.52	0.53	0.53	0.46
% Death Certificate Only	2.63	0.00	1.38	1.89	3.33	2.86
% Microscopically Verified	88.82	82.95	73.79	83.02	75.00	70.00
<b>MORTALITY</b>						
Number of Deaths	61	52	75	28	32	34
Crude Rate (per 100,000)	7.66	6.49	9.31	3.35	3.81	4.03
Cumulative Risk (0-74) (%)	0.58	0.40	0.64	0.20	0.14	0.20
WASR (per 100,000)	5.48	4.23	6.27	1.69	1.51	1.81
EASR (per 100,000)	8.85	7.12	10.47	2.68	2.54	2.97
% of All Cancer Deaths	3.24	2.80	4.06	1.61	1.82	2.06

WASR = Rates standardised for age to the World standard population  
EASR = Rates standardised for age to the European standard population

## Age Profile

This disease predominantly occurs in late adulthood - age specific rates in both sexes continually rose after about 60 years, peaking in the oldest age groups - see Figures 33 and 34.

Figure 33 Age Distribution of New Cases 1993-95, Cancer of the Bladder

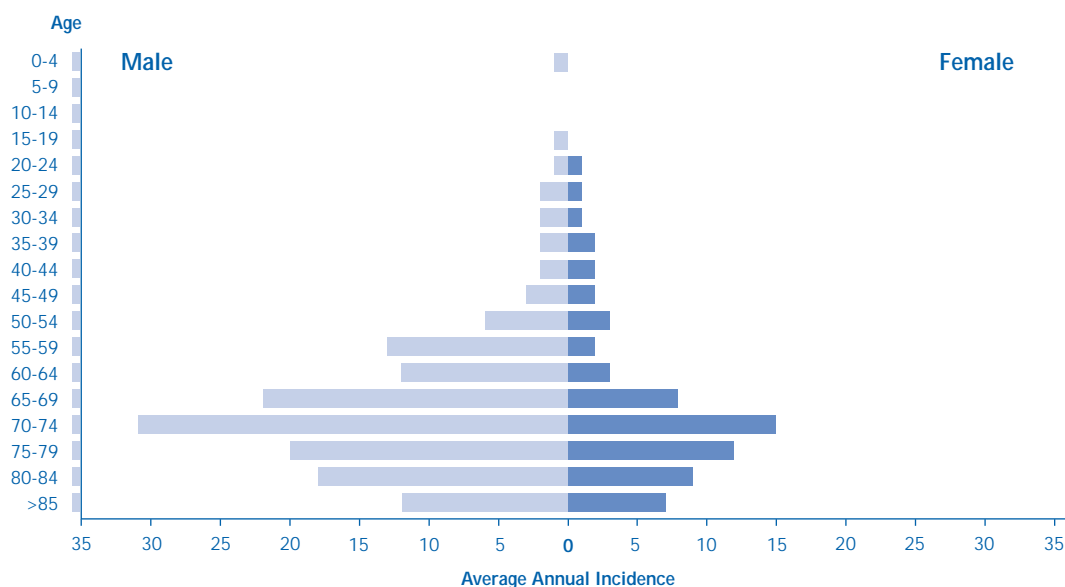
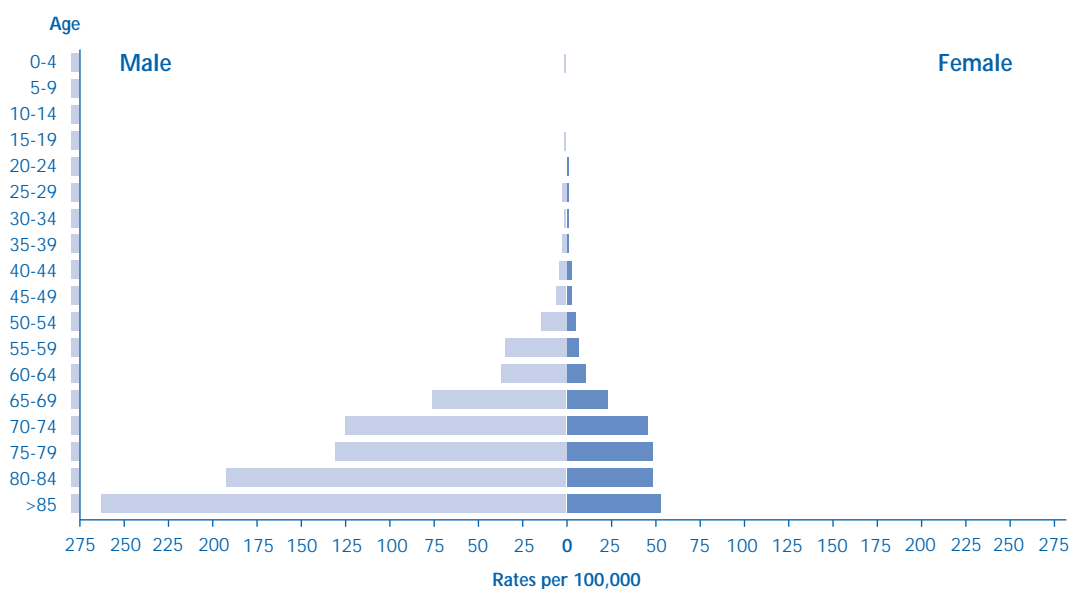


Figure 34 Average Annual Age Specific Rates (per 100,000) 1993-95, Cancer of the Bladder



**Geographical Distribution of Disease**

No significant variation at Health Board level was found for any age group for either sex.

**Data Quality**

The level of Death Certificate Only (DCO) registration was low at 2%. However, the numbers Microscopically Verified were also low. This is under investigation.

### Comparison with other Countries

Table 45 provides comparative figures for the number of cases and European Age Standardised Rates for the year 1995.

**Table 45 Comparative Numbers and Rates for Britain and Ireland 1995, Cancer of the Bladder**

Country	Males		Females	
	Cases	EASR (per 100,000)	Cases	EASR (per 100,000)
Scotland	929	35.40	454	12.10
England & Wales	8280	29.00	3290	8.00
Republic of Ireland	337	22.39	109	5.73
Northern Ireland	145	19.73	70	6.93

The rates for Northern Ireland were lower for males than in Scotland, England & Wales and the Republic of Ireland.

In females the rate for the Republic of Ireland was lower than that for Northern Ireland.

### Comment

Cigarette smoking is a recognised risk factor for bladder cancer, though the population-attributable risk is lower than that for lung cancer: approximately 45% for males and 30% for females. Some industrial processes are associated with increased risk of bladder cancer, especially those associated with the use of aromatic amines as in the manufacture of dyes, pigments and rubber etc. In some tropical countries infection with Schistosomiasis Haematobium increases the risk of bladder cancer of the squamous cell variety.

### For Health Gain

- Actions to reduce smoking levels include:
  - Reducing the numbers who start to smoke by banning advertising, increasing taxation, reducing availability of tobacco products and enhancing health education.
  - Helping those who smoke to stop.
- Increased awareness among the population about the importance of early investigation of symptoms.
- 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.

# Bladder Cancer

## Histological Types

Pathologists can tell something about how a tumour is likely to behave by looking at the type of tissue the tumour arises from and in the case of bladder tumours, the shape of the tumour is also important. This description provides a number of types or morphologies - see Table 46.

**Table 46 Cancer of the Bladder, Morphology by year of diagnosis**

Morphology Description	SNOMED Code	Nos. ( % of Total) by year		
		1993	1994	1995
<b>MALES</b>				
<b>INVASIVE CANCERS</b>				
Transitional cell carcinoma	M81203	86 (56.6%)	72 (55.8%)	65 (44.8%)
Papillary transitional cell ca.	M81303	21 (13.8%)	19 (14.7%)	16 (11.0%)
Carcinoma, NOS*	M80103	7 (4.6%)	8 (6.2%)	7 (4.8%)
Squamous cell carcinoma	M80703	1 (0.7%)	4 (3.1%)	3 (2.1%)
Adenocarcinoma	M81403	11 (7.2%)	2 (1.6%)	7 (4.8%)
Other Morphologies		2 (1.3%)	2 (1.6%)	2 (1.4%)
Non microscopically verified		24 (15.8%)	22 (17.1%)	45 (31.0%)
<b>TOTAL INVASIVE CANCERS</b>		<b>152</b>	<b>129</b>	<b>145</b>
<b>NON INVASIVE CANCERS</b>				
Urothelial papilloma	M81201	122 (89.7%)	109 (92.3%)	97 (95.1%)
Transitional cell ca. <i>in situ</i>	M81202	9 (6.6%)	6 (5.1%)	2 (2.0%)
Carcinoma <i>in situ</i>	M80102	5 (3.7%)	3 (2.5%)	3 (2.9%)
<b>TOTAL NON INVASIVE CANCERS</b>		<b>136</b>	<b>118</b>	<b>102</b>
<b>FEMALES</b>				
<b>INVASIVE CANCERS</b>				
Transitional cell carcinoma	M81203	22 (41.5%)	24 (40.0%)	35 (50.0%)
Papillary transitional cell ca.	M81303	13 (24.5%)	7 (11.7%)	5 (7.1%)
Carcinoma, NOS	M80103	3 (5.7%)	6 (10.0%)	4 (5.7%)
Squamous cell carcinoma	M80703	2 (3.8%)	4 (6.7%)	5 (7.1%)
Adenocarcinoma	M81403	3 (5.7%)	2 (3.3%)	0 (0.0%)
Other Morphologies		1 (1.9%)	0 (0.0%)	1 (1.4%)
Non microscopically verified		9 (17.0%)	17 (28.3%)	20 (28.6%)
<b>TOTAL INVASIVE CANCERS</b>		<b>53</b>	<b>60</b>	<b>70</b>
<b>NON INVASIVE CANCERS</b>				
Transitional cell ca. <i>in situ</i>	M81201	35 (100%)	45 (97.8%)	36 (92.3%)
Carcinoma <i>in situ</i>	M80102	0 (0.0%)	1 (2.2%)	3 (7.7%)
<b>TOTAL NON INVASIVE CANCERS</b>		<b>35</b>	<b>46</b>	<b>39</b>

\*NOS - not otherwise specified

## Comment

The Registry receives electronic notification of bladder cancer patients from the PAS (Patient Administration System) and Pathology reports. Both sources use a coded form which does not distinguish invasive carcinomas and non-invasive carcinomas. Due to the inclusion of non-invasive tumours, bladder cancer rates would have been considerably higher than expected. The pathology reports for all urinary bladder cancers were examined by Tumour Verification Officers (TVOs) and if a carcinoma was described as being "non-malignant" or "non-invasive", it was recoded to be uncertain or a borderline malignancy (ICD-9 code of 236.7) and assigned the SNOMED code M81201. This is in agreement with international standards for this site (AJCC Cancer Staging Manual). (ref: 17)

## Stage

When examining the pathology reports for the presence or absence of fully malignant tumours, pathologists sometimes mentioned the stage of the tumour. Where this was the case, the stage was recorded. It was also possible to translate the non-invasive, non-malignant tumours to being pathological stage pTa and the flat, *in situ* tumours to being pTis - see Table 47.

**Table 47 Cancer of the Bladder Staging by Year of Diagnosis**

pT Stage:		Nos. (% of Total) by year		
		1993	1994	1995
<b>MALES</b>				
pTa	Non-invasive, non-malignant	122 (42.3%)	109(44.1%)	97(39.7%)
pTis	Flat or in situ tumour	14 (4.9%)	9 (3.6%)	5 (2.0%)
pT1	Tumour invades connective tissue	8 (2.8%)	6 (2.4%)	4 (1.6%)
pT2	Tumour invades superficial muscle	6 (2.1%)	12 (4.8%)	7 (2.8%)
pT3	Tumour invades deep muscle	3 (1.0%)	1(0.4%)	3 (1.2%)
pT4	Tumour invades other organs	0 (0.0%)	0 (0.0%)	0 (0.0%)
pTX	Tumour could not be assessed	135 (46.9%)	110(44.5%)	131(53.0%)
TOTAL INVASIVE + NON-INVASIVE		288	247	247
<b>FEMALES</b>				
		Nos. (% of Total) by year		
		1993	1994	1995
pTa	Non-invasive, non-malignant	35 (39.8%)	45 (42.5%)	36 (33.0%)
pTis	Flat or in situ tumour	0 (0.0%)	1 (0.9%)	3 (2.8%)
pT1	Tumour invades connective tissue	2 (2.3%)	2 (1.9%)	2 (1.8%)
pT2	Tumour invades superficial muscle	4 (4.5%)	7 (6.6%)	6 (5.5%)
pT3	Tumour invades deep muscle	2 (2.3%)	2 (1.9%)	2 (1.8%)
pT4	Tumour invades other organs	0 (0.0%)	0 (0.0%)	0 (0.0%)
pTX	Tumour could not be assessed	45 (51.1%)	49 (46.2%)	60 (55.0%)
TOTAL INVASIVE + NON-INVASIVE		88	106	109

Just over 40% of all bladder tumours were of the non invasive form of the cancer. Patients with this type of tumour have an extremely good prognosis. Forty-eight percent of all bladder tumours were not staged.

**Grade**

The grade of the tumour is a measurement made by the pathologist. The higher the grade of the tumour, the more abnormal it looks from the tissue it arises from. Tumours of a higher grade tend to behave more aggressively than those of a lower grade - Table 48 provides detail.

**Table 48 Cancer of the Bladder, Morphological Grade by Year 1993-95**

Grade:		Nos. (% of Total) By Year		
		1993	1994	1995
WHO Grade 1	Well Differentiated	53 (18.4%)	54 (21.9%)	39 (15.8%)
WHO Grade 2	Moderate Differentiation	130 (45.1%)	111 (44.9%)	97 (39.3%)
WHO Grade 3	Poor Differentiation	95 (33.0%)	79 (32.0%)	81 (32.8%)
	Ungraded	10 (3.5%)	3 (1.2%)	30 (12.1%)

Grade & Stage:	Nos. (% Total for that Grade)		
	Grade1	Grade2	Grade3
Stage			
pTa	136 (93.1%)	265 (78.4%)	26 (10.1%)
pTis	0 (0.0%)	9 (2.6%)	10 (3.9%)
pT1	0 (0.0%)	9 (2.6%)	15 (5.8%)
pT2	0 (0.0%)	1 (0.3%)	37 (14.5%)
pT3	0 (0.0%)	1 (0.3%)	9 (3.5%)
pTX	10 (6.8%)	53 (15.6%)	158 (62.0%)
<b>TOTAL Graded</b>	<b>146</b>	<b>338</b>	<b>255</b>

Of the total 1,085 bladder tumours 739 (68.1%) were graded. The lower the grade the more likely a tumour is to be a lower stage and the patient to have a better prognosis. Of the grade 1 tumours 73.1% were of the "non-invasive" pTa type, although it should be noted that 10.1% of the grade 3 tumours were also pTa. Similarly, the higher staged tumours, pT2 and pT3 were almost entirely grade 3 tumours.

**Recommendation**

Clear distinction should be made between invasive and non-invasive bladder tumours.