

16.1. INTRODUCTION AND SUMMARY

Table 16.1. Summary of incidence and mortality statistics: stomach cancer

	INCIDENT CASES			DEATHS		
	males	females	both sexes	males	females	both sexes
All cancers (invasive, in situ and uncertain) (ICD-O-2 C16)						
1997 cases	301	175	476	233	141	374
% of all cancers	2.9%	1.6%	2.2%	5.8%	4.0%	5.0%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	16.6	9.5	13.1	12.9	7.7	10.3
World age-standardised rate	12.7	5.9		9.6	4.5	
European age-standardised rate	19.3	8.7		14.8	6.9	
cumulative risk (0-74)	1.5%	0.7%		1.1%	0.6%	
mortality/incidence ratio	0.774	0.806	0.786			
Time trends (all cancers)						
1994 cases	304	179	483	241	179	420
1995 cases	295	183	478	259	153	412
1996 cases	308	176	484	236	163	399
1997 cases	301	175	476	233	141	374
1994-1997 average	302	178	480	242	159	401
annual % change 1994-97	-0.7%	-1.0%	-0.9%	-2.3%	-6.0%	-4.1%
95% confidence limits of trend	(-2.2%; 0.8%)	(-2.2%; 0.1%)	(-2.3%; 0.5%)	(-7.7%; 3.4%)	(-10.7%; -1.1%)	(-6.0%; -2.3%)
Invasive cancers only (ICD-10 C16)						
1997 cases	297	173	470	233	141	374
% of all invasive cancers	3.0%	2.0%	2.5%	5.9%	4.0%	5.0%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	16.4	9.4	12.9	12.9	7.7	10.3
World age-standardised rate	12.5	5.8		9.6	4.5	
European age-standardised rate	19.1	8.6		14.8	6.9	
cumulative risk (0-74)	1.4%	0.7%		1.1%	0.6%	
mortality/incidence ratio	0.785	0.815	0.796			

Stomach cancer was almost twice as common in men as in women, with a high mortality in both sexes (Table 16.1). The incidence rates for both men and women have not changed since 1994.

16.2. AGE AND SEX PROFILE

Table 16.2. Annual average number of cases, age-specific incidence rate and relative age-specific rate for stomach cancers, 1994 to 1997

	MALES			FEMALES		
	annual average number of cases	cases per 100,000	relative rate	annual average number of cases	cases per 100,000	relative rate
0-4	0	0	0.0	0	0	0.0
5-9	0	0	0.0	0	0	0.0
10-14	0	0	0.4	0	0	0.0
15-19	0	0	0.0	0	0	0.0
20-24	0	0	0.2	0	0	0.1
25-29	0	0	0.1	0	0	0.1
30-34	2	2	0.7	1	1	0.1
35-39	3	2	0.8	3	2	0.4
40-44	7	5	1.0	4	3	0.5
45-49	10	8	1.0	5	5	0.5
50-54	16	17	0.9	7	8	0.6
55-59	27	35	1.2	8	10	0.6
60-64	34	50	1.0	15	21	0.9
65-69	51	84	1.1	23	34	1.1
70-74	50	99	0.9	37	59	1.5
75-79	50	141	1.1	25	51	1.1
80-84	36	171	1.1	29	84	1.6
>85	18	168	1.0	24	100	1.8
all ages	302	16.8	1.0	178	9.8	1.0

The largest number of cases in men was in the 65 to 69 year age group and for women in the 70 to 74 year age group (Table 16.2). The highest relative incidence rate for men was in those aged 55 to 59, and for women in those aged 85 and over.

16.3. SUBSITES

Most cases could be localised to a specific site within the stomach (Table 16.3). Two mutually exclusive systems of topography are used in describing sites within the stomach. The use of the non-specific terms "greater curvature", "lesser curvature" and "anterior wall" is not recommended in the ICD-O classification, but at times this was the only information available from the records. Only 13% of cases had no site registered.

The largest number of cases, by the first classification system, was in the cardia (26%) and, by the second system, on the lesser curvature (13%).

Table 16.3. Subsites of stomach cancer

	ICD-O-2 site	MALES		FEMALES	
		cases	% of total	cases	% of total
cardia, NOS	C16.0	91	30.2%	31	17.7%
fundus	C16.1	24	8.0%	15	8.6%
body	C16.2	25	8.3%	15	8.6%
antrum	C16.3	32	10.6%	17	9.7%
pylorus	C16.4	23	7.6%	17	9.7%
lesser curvature	C16.5	38	12.6%	26	14.9%
greater curvature	C16.6	16	5.3%	17	9.7%
overlapping lesion	C16.8	18	6.0%	10	5.7%
stomach, NOS	C16.9	34	11.3%	27	15.4%
all cancers		301		175	

16.4. GEOGRAPHICAL VARIATION

INTERNATIONAL**Table 16.4. Age-adjusted incidence rate (European standard population) and rank of rates by country, 1994 to 1997 (invasive cases only)**

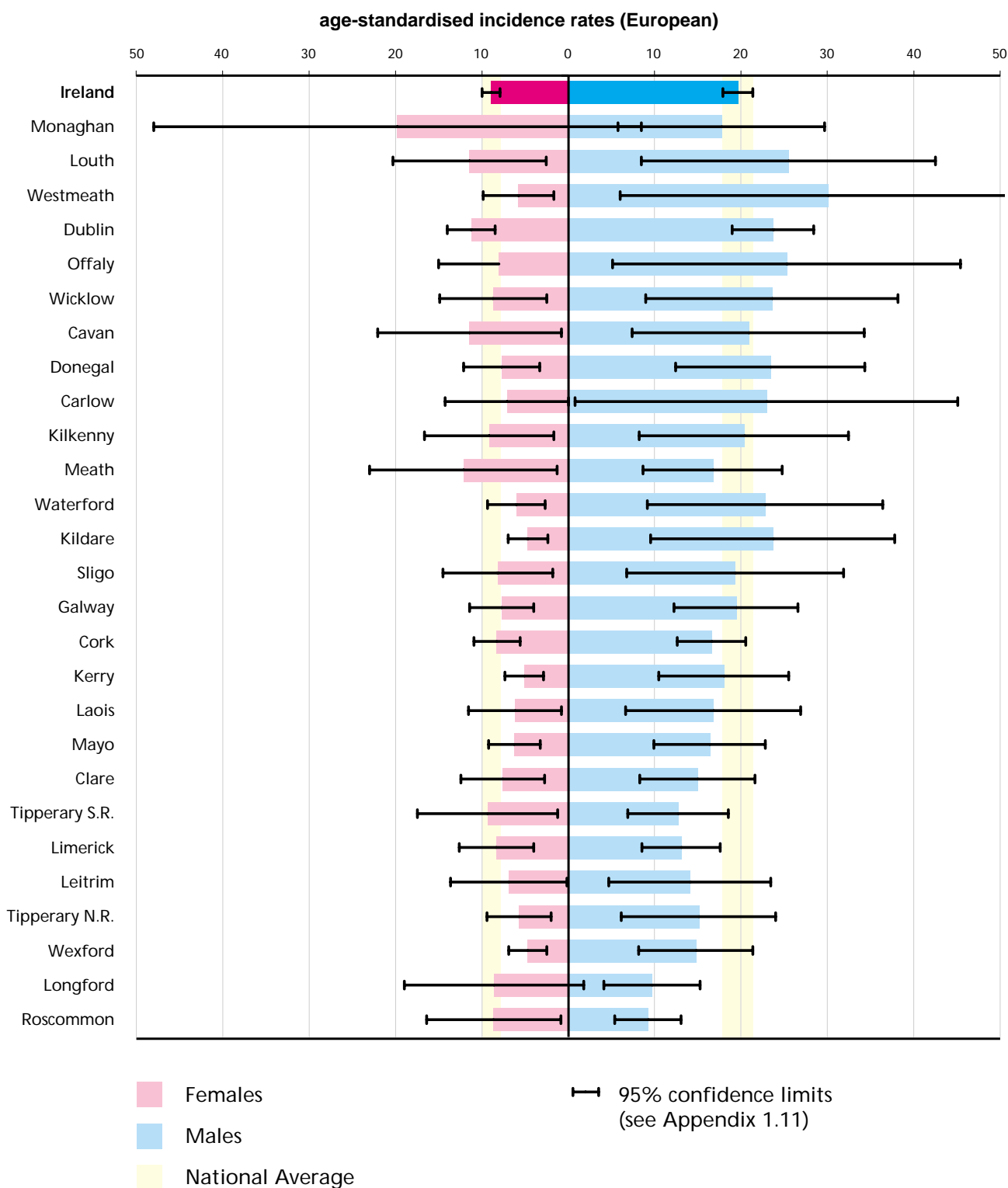
	MALES		FEMALES	
	age-standardised rate	rank	age-standardised rate	rank
Estonia	47	1	22	1
Slovenia	34	3	15	3
Italy	36	2	13	6
Slovakia	32	4	14	4
Austria	27	6	15	2
Poland	30	5	12	7
Czech Republic	27	7	13	5
Scotland	23	9	11	9
Bulgaria	22	11	11	8
Germany	23	10	9	13
Malta	23	8	7	19
N. Ireland	22	12	8	16
Finland	19	15	10	10
Spain	20	13	9	11
Ireland (1994-1997)	19	14	9	14
Netherlands	19	16	8	15
Norway	17	17	9	12
Iceland	17	18	8	17
France	16	19	7	20
England	16	20	6	22
Switzerland	14	21	7	18
Sweden	13	22	7	21
Denmark	12	23	5	23

The highest incidence of gastric cancer for both men and women was found in Estonia, and the lowest in Denmark (Table 16.4). Ireland ranked 14th highest of 23 for both men and women, below Northern Ireland and Scotland, but above England.

NATIONAL

The highest incidence rate for men was in Westmeath (153% of expected) and for women in Monaghan (222% of expected) (Figure 16.1). The lowest rates were for men in Roscommon (47% of expected) and for women in Kildare and Wexford (53% of expected).

Figure 16.1. Age-adjusted (European population) rates and 95% confidence limits by county, 1994 to 1997: stomach cancer



16.5. BASIS OF DIAGNOSIS AND HISTOLOGICAL TYPE

Table 16.5. Most valid basis of diagnosis of cancer

BASIS OF DIAGNOSIS	CASES	% OF TOTAL
tissue diagnosis	434	91.2%
histology of primary	413	86.8%
histology of other site	18	3.8%
cytology	2	0.4%
bone marrow	1	0.2%
clinical diagnosis	42	8.8%
clinical	20	4.2%
radiology	17	3.6%
post-mortem	2	0.4%
other/not known	3	0.6%
all cancers	476	

A histological confirmation of diagnosis was made in 91.2% of cases (Table 16.5). Quite a high proportion (4%) was diagnosed by histology of a metastatic site.

Most of the cancers diagnosed were adenocarcinoma (288 cases; 60.5%) (Table 16.6). Other cancers included carcinoid (3) and leiomyosarcoma (5).

Table 16.6. Morphology

Description	ICD-O-2 code	1997		1994-1997 AVERAGE	
		cases	% of total	cases	% of total
adenocarcinoma, NOS	8140/3	247	51.9%	249	51.8%
signet ring cell carcinoma	8490/3	57	12.0%	64	13.2%
malignant neoplasm	8000/3	44	9.2%	51	10.6%
carcinoma, NOS	8010/3	36	7.6%	31	6.4%
adenocarcinoma intestinal type	8144/3	27	5.7%	17	3.6%
mucin-secreting adenocarcinoma	8481/3	11	2.3%	13	2.6%
mucous adenocarcinoma	8480/3	5	1.1%	11	2.2%
squamous cell carcinoma, NOS	8070/3	9	1.9%	6	1.3%
papillary adenocarcinoma, NOS	8260/3	2	0.4%	5	0.9%
carcinoma in situ, NOS	8010/2	3	0.6%	4	0.8%
carcinoma diffuse type	8145/3	6	1.3%	4	0.8%
carcinoid tumour, NOS	8240/3	3	0.6%	4	0.8%
linitis plastica	8142/3	5	1.1%	4	0.7%
leiomyosarcoma, NOS	8890/3	5	1.1%	3	0.6%
adenocarcinoma in situ, NOS	8140/2	1	0.2%	2	0.4%
acinar cell carcinoma	8550/3	3	0.6%	2	0.4%
all other types		12	2.5%	13	2.7%
Behaviour					
uncertain		1	0.2%	1	0.3%
in situ		5	1.1%	7	1.4%
invasive		470	98.7%	473	98.4%
all cases		476		480	

16.6. STAGE

Table 16.7. Summary stage

stage	1997		1994-1997 AVERAGE	
	cases	% of total	cases	% of total
0	5	1.1%	7	1.4%
IA	13	2.7%	12	2.4%
IB	14	2.9%	14	2.9%
II	24	5.0%	22	4.6%
IIIA	22	4.6%	29	6.0%
IIIB	15	3.2%	19	4.0%
IV	140	29.4%	133	27.7%
not applicable	4	0.8%	6	1.2%
not staged	239	50.2%	239	49.7%
all cancers	476		480	

Table 16.8. Extent of disease

EXTENT OF DISEASE	CASES	% OF TOTAL
local	52	10.9%
regional	78	16.4%
distant	139	29.2%
not applicable	4	0.8%
not known	203	42.6%
all cancers	476	

Full summary stage information was available for 50% of stomach cancers (Table 16.7). Just under 30% (60% of those staged) were at stage IV. This pattern has not changed since 1994.

Extent of disease information was available for 57% of cases, of which the majority had metastasised at the time of diagnosis (Table 16.8).

The most frequent TNM combination was T3 N1 M0 (Table 16.9).

Table 16.9. TNM stage

T stage	N stage	M0		M1		NOT STAGED	
		cases	% of total	cases	% of total	cases	% of total
Tis/Ta	N0	5	1.1%	0	0.0%	0	0.0%
T1	N0	13	2.7%	0	0.0%	2	0.4%
	N1	1	0.2%	2	0.4%	2	0.4%
	N2	0	0.0%	0	0.0%	1	0.2%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	1	0.2%	1	0.2%	5	1.1%
T2	N0	14	2.9%	2	0.4%	5	1.1%
	N1	12	2.5%	3	0.6%	6	1.3%
	N2	2	0.4%	1	0.2%	1	0.2%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	2	0.4%	5	1.1%	10	2.1%
T3	N0	13	2.7%	2	0.4%	10	2.1%
	N1	17	3.6%	10	2.1%	27	5.7%
	N2	13	2.7%	3	0.6%	4	0.8%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	2	0.4%	9	1.9%	8	1.7%
T4	N0	3	0.6%	3	0.6%	2	0.4%
	N1	2	0.4%	4	0.8%	5	1.1%
	N2	1	0.2%	6	1.3%	6	1.3%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	8	1.7%	13	2.7%	22	4.6%
not staged	N0	4	0.8%	2	0.4%	1	0.2%
	N1	2	0.4%	4	0.8%	1	0.2%
	N2	1	0.2%	3	0.6%	1	0.2%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	14	2.9%	66	13.9%	84	17.6%
all T	all N	130	27.3%	139	29.2%	203	42.6%
staging not applicable		4	0.8%				
all cancers		476					

16.7. TREATMENT

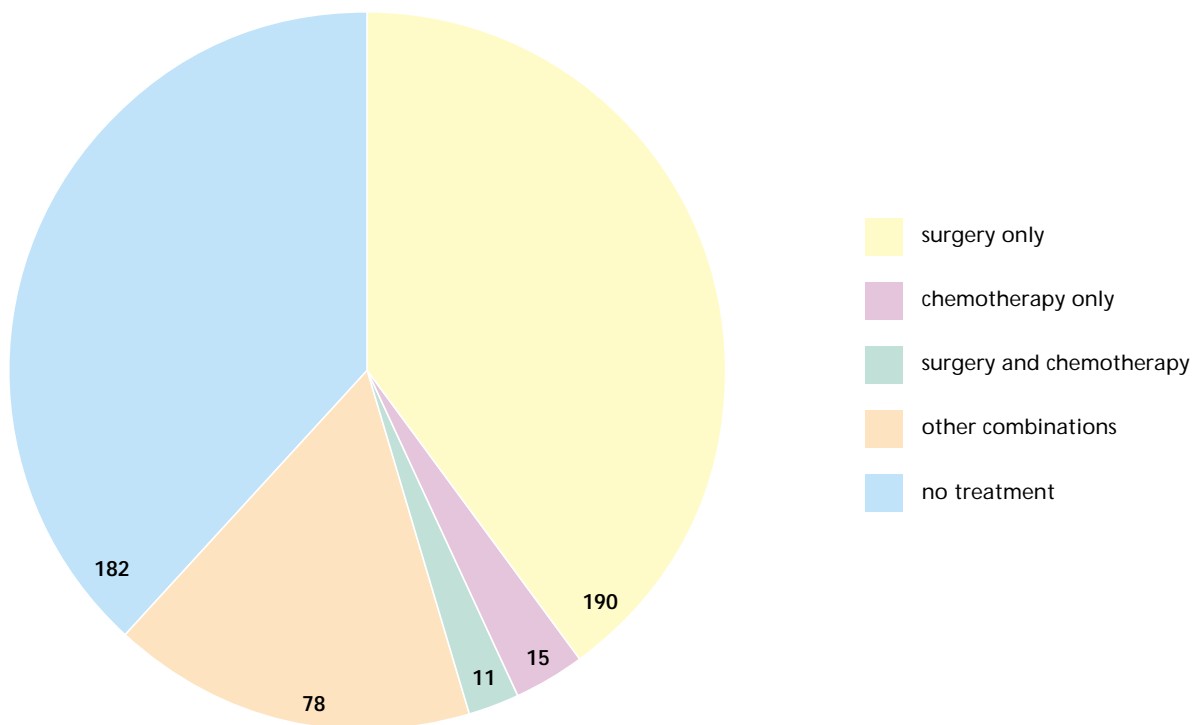
45% of patients had surgery, usually without adjuvant therapy (Table 16.10). Few patients had radiotherapy or chemotherapy, although the numbers having chemotherapy have increased from 6% to 8.4% since 1994 (Figure 16.2).

Table 16.10. Treatment summary

TREATMENT	NUMBER OF 1997 CASES TREATED	TRENDS IN % OF CASES TREATED			
		1997	1996	1995	1994
surgery	213	44.7%	44.2%	42.3%	44.5%
chemotherapy	40	8.4%	7.2%	6.3%	6.0%
hormone	2	0.4%	0.2%		
radiotherapy	14	2.9%	3.3%	2.9%	2.9%
other treatment	62	13.0%	18.6%	13.0%	48.2%
all cases treated	294	61.8%	64.7%	61.8%	77.4%
no treatment	182	38.2%	35.3%	38.2%	22.6%
all cases	476	476	484	478	483

Figure 16.2. Frequent treatment combinations

Note: numbers indicated refer to the number of cases treated



16.8. SURVIVAL

Table 16.11. One to five year relative survival (\pm 95% confidence limits) for cancers diagnosed from 1994 to 1997

sex	stage	cases	YEARS FROM DIAGNOSIS					
			1		3		5	
			survival	95% confidence limits (\pm)	survival	95% confidence limits (\pm)	survival	95% confidence limits (\pm)
males	0	10	0.82	0.26	0.68	0.37	0.73	0.38
	I	61	0.77	0.12	0.67	0.14	0.66	0.17
	II	53	0.59	0.14	0.36	0.15	0.41	0.15
	III	127	0.45	0.09	0.18	0.07	0.13	0.07
	IV	336	0.13	0.04	0.08	0.03	0.10	0.03
	X	577	0.39	0.04	0.27	0.04	0.28	0.04
	all	1164	0.35	0.03	0.23	0.03	0.23	0.03
females	0	14	0.84	0.23	0.74	0.27	0.84	0.28
	I	40	0.83	0.13	0.69	0.18	0.54	0.27
	II	35	0.70	0.16	0.33	0.19		
	III	62	0.50	0.13	0.26	0.11	0.24	0.12
	IV	182	0.14	0.05	0.10	0.04	0.10	0.04
	X	358	0.36	0.05	0.27	0.05	0.27	0.06
	all	691	0.37	0.04	0.26	0.04	0.24	0.05

Survival was poor for stomach cancer (Table 16.11). Overall survival at five years was 23% \pm 3% for men and 24% \pm 5% for women. Five-year survival for stage I cases was 66% \pm 17% for men and 54% \pm 27% for women, while survival for stage IV cases was 10% \pm 3% for men and 10% \pm 4% for women (Figure 16.3).

Figure 16.3. Relative survival by stage for cases diagnosed from 1994 to 1997