

## 17.1. INTRODUCTION AND SUMMARY

Table 17.1. Summary of incidence and mortality statistics: lymphoma

	INCIDENT CASES			DEATHS		
	males	females	both sexes	males	females	both sexes
<b>All cancers (invasive, in situ and uncertain) (ICD-O-2 C00 to C80, M-9590 to M-9723)</b>						
1997 cases	265	232	497	117	101	218
% of all cancers	2.5%	2.1%	2.3%	2.9%	2.9%	2.9%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	14.6	12.6	13.6	6.5	5.5	6.0
World age-standardised rate	12.5	9.6		5.1	3.6	
European age-standardised rate	16.5	12.5		7.3	5.2	
cumulative risk (0-74)	1.3%	1.0%		0.6%	0.4%	
mortality/incidence ratio	0.442	0.435	0.439			
<b>Time trends (all cancers)</b>						
1994 cases	242	221	463	115	107	222
1995 cases	228	196	424	126	94	220
1996 cases	251	212	463	130	89	219
1997 cases	265	232	497	117	101	218
1994-1997 average	247	215	462	122	98	220
annual % change 1994-97	+3.5%	+0.7%	+2.2%	-0.3%	-2.3%	-1.2%
95% confidence limits of trend	(-0.3%; 7.4%)	(-4.9%; 6.7%)	(-2.2%; 6.8%)	(-6.2%; 5.9%)	(-10.1%; 6.2%)	(-1.4%; -1.0%)
<b>Invasive cancers only (ICD-10 C81 to C85)</b>						
1997 cases	262	230	492	117	101	218
% of all invasive cancers	2.7%	1.2%	2.6%	2.9%	2.9%	2.9%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	14.5	12.5	13.5	6.5	5.5	6.0
World age-standardised rate	12.3	9.5		5.1	3.6	
European age-standardised rate	16.3	12.4		7.3	5.2	
cumulative risk (0-74)	1.3%	1.0%		0.6%	0.4%	
mortality/incidence ratio	0.447	0.439	0.443			

The cumulative risk of lymphoma for men was 1.3% to age 75 and for women 1.0%. (Table 17.1). The incidence for men has increased by 3.5% annually since 1994, but that for women has remained almost unchanged.

## 17.2. AGE AND SEX PROFILE

**Table 17.2. Annual average number of cases, age-specific incidence rate and relative age-specific rate for lymphoma, 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	2	1	2.7	1	1	2.8
5-9	2	2	5.5	1	1	3.7
10-14	4	2	6.5	3	2	6.8
15-19	9	5	9.8	5	3	5.6
20-24	8	5	6.5	7	5	2.7
25-29	8	6	4.8	8	6	1.5
30-34	10	8	4.7	10	7	1.5
35-39	12	10	3.8	8	6	1.0
40-44	15	12	2.8	8	6	0.8
45-49	17	15	2.2	10	9	0.8
50-54	23	24	1.6	16	18	1.1
55-59	22	29	1.2	19	25	1.1
60-64	22	32	0.8	21	30	1.1
65-69	31	51	0.8	24	36	0.9
70-74	23	46	0.5	29	47	1.0
75-79	22	62	0.6	22	45	0.8
80-84	14	65	0.5	16	47	0.7
>85	5	48	0.3	9	39	0.6
<b>all ages</b>	<b>247</b>	<b>13.7</b>	<b>1.0</b>	<b>215</b>	<b>11.8</b>	<b>1.0</b>

The largest number of cases for men was in the 65 to 69 year age group, while the highest relative rate was in those aged 15 to 19 (Table 17.2). For women, the largest number of cases was in the 70 to 74 year age group, while the highest relative rate was in those aged 10 to 14.

## 17.3. PRIMARY SITES

Primary lymphoma was diagnosed in many sites (Table 17.3). The majority had a primary site of lymph nodes (69%) or other lymphoid tissue, but there were significant numbers in the skin (23; 4.6%) and stomach (33; 6.6%).

*Table 17.3. Primary sites of lymphoma*

	MALES		FEMALES		BOTH SEXES	
	cases	% of total	cases	% of total	cases	% of total
lymph nodes	192	72.5%	150	64.7%	342	68.8%
stomach	13	4.9%	20	8.6%	33	6.6%
skin	13	4.9%	10	4.3%	23	4.6%
small intestine	10	3.8%	4	1.7%	14	2.8%
tonsil	3	1.1%	6	2.6%	9	1.8%
colon	6	2.3%	2	0.9%	8	1.6%
bones, joints head and trunk	2	0.8%	4	1.7%	6	1.2%
haematopoietic and reticulendothelial	4	1.5%	1	0.4%	5	1.0%
lung	3	1.1%	2	0.9%	5	1.0%
nasal cavity/middle ear	2	0.8%	1	0.4%	3	0.6%
rectum	1	0.4%	2	0.9%	3	0.6%
other tongue	2	0.8%	0	0.0%	2	0.4%
nasopharynx	2	0.8%	0	0.0%	2	0.4%
bones, joints of limbs	2	0.8%	0	0.0%	2	0.4%
testis	2	0.8%	0	0.0%	2	0.4%
liver	1	0.4%	1	0.4%	2	0.4%
eye	1	0.4%	1	0.4%	2	0.4%
peritoneum	1	0.4%	0	0.0%	1	0.2%
connective tissues	1	0.4%	0	0.0%	1	0.2%
prostate	1	0.4%	0	0.0%	1	0.2%
brain	1	0.4%	4	1.7%	5	1.0%
unknown primary site	1	0.4%	0	0.0%	1	0.2%
floor of mouth	0	0.0%	1	0.4%	1	0.2%
palate	0	0.0%	1	0.4%	1	0.2%
parotid	0	0.0%	2	0.9%	2	0.4%
oesophagus	0	0.0%	1	0.4%	1	0.2%
rectosigmoid	0	0.0%	1	0.4%	1	0.2%
other digestive	0	0.0%	2	0.9%	2	0.4%
sinuses	0	0.0%	1	0.4%	1	0.2%
mediastinum	0	0.0%	1	0.4%	1	0.2%
breast	0	0.0%	3	1.3%	3	0.6%
vagina	0	0.0%	1	0.4%	1	0.2%
cervix	0	0.0%	2	0.9%	2	0.4%
kidney	0	0.0%	1	0.4%	1	0.2%
thyroid	0	0.0%	5	2.2%	5	1.0%
ill-defined site	0	0.0%	1	0.4%	1	0.2%

## 17.4. GEOGRAPHICAL VARIATION

**INTERNATIONAL****Table 17.4. Age-adjusted annual incidence rate (European standard population) and rank of rates by country, 1995: lymphoma (invasive cases only)**

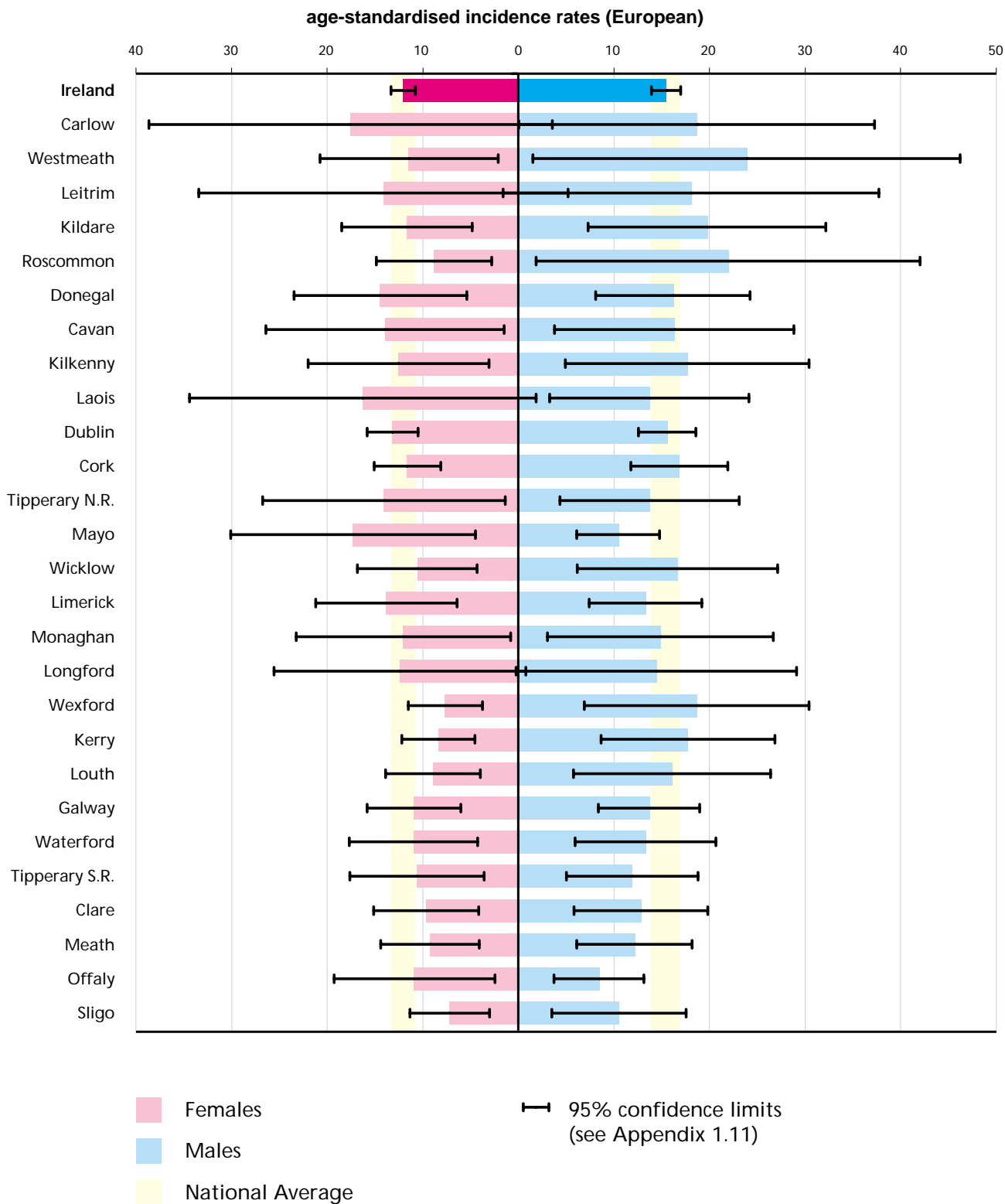
	MALES		FEMALES	
	age-standardised rate	rank	age-standardised rate	rank
Finland	19.7	4	14.2	1
N. Ireland	21.4	2	11.9	8
Scotland	18.6	6	13.3	3
Switzerland	19.8	3	12.1	6
Spain	22.5	1	8.9	17
France	19.0	5	11.8	10
Italy	17.2	9	13.6	2
Iceland	18.5	7	12.2	5
Netherlands	17.9	8	11.8	9
<b>Ireland (1994-1997)</b>	<b>15.4</b>	<b>13</b>	<b>12.0</b>	<b>7</b>
Denmark	16.8	10	11.4	11
Sweden	16.7	11	11.3	12
England	16.0	12	10.8	14
Germany	14.9	14	10.8	13
Malta	9.7	20	12.3	4
Czech Republic	12.0	15	9.5	15
Austria	11.4	18	9.1	16
Slovenia	11.5	17	8.5	18
Estonia	11.5	16	8.4	19
Slovakia	10.8	19	7.7	20
Poland	9.0	22	7.3	21
Norway	9.3	21	6.6	22
Bulgaria	6.0	23	3.0	23

Ireland ranked 13th in male incidence and 7th in female incidence (Table 17.4). However, the differences between countries were quite small in the majority of cases.

**NATIONAL**

The highest rate for males was in Westmeath (154% of expected) and the lowest in Offaly (54%) (Figure 17.1). The highest rate for females was in Carlow (146% of expected) and the lowest in Sligo (60%).

**Figure 17.1. Age-adjusted (European population) rates and 95% confidence limits by county, 1994 to 1997: lymphoma**



## 17.5. BASIS OF DIAGNOSIS AND HISTOLOGICAL TYPE

**Table 17.5. Most valid basis of diagnosis**

BASIS OF DIAGNOSIS	CASES	% OF TOTAL
<b>tissue diagnosis</b>	<b>492</b>	<b>99.0%</b>
histology of primary	469	94.4%
histology of other site	6	1.2%
bone marrow biopsy	14	2.8%
cytology	3	0.6%
<b>clinical diagnosis</b>	<b>5</b>	<b>1.0%</b>
post mortem	3	0.6%
radiology	2	0.4%
<b>all cancers</b>	<b>497</b>	

Most cases (99%) were diagnosed by histology, either of an affected node (94%), bone marrow (3%) or another site (1%) (Table 17.5).

Many lymphomas continue to be given non-specific labels – those described just as lymphoma or non-Hodgkin's lymphoma made up 34% of the total (Table 17.6). The most frequent specific type was large cell diffuse (13.5% of the total).

**Table 17.6. Morphology of lymphoma**

Description	ICD-O-2 code	1997		1994-1997 AVERAGE	
		cases	% of total	cases	% of total
non-Hodgkin's, NOS	9591/3	77	15.5%	85	18.5%
lymphoma, NOS	9590/3	92	18.5%	76	16.4%
large cell diffuse, NOS	9680/3	67	13.5%	55	11.9%
Hodgkin's disease nodular sclerosis, NOS	9663/3	37	7.4%	35	7.6%
follicular (nodular), NOS	9690/3	30	6.0%	20	4.3%
small cell lymphocytic, NOS	9670/3	14	2.8%	20	4.2%
diffuse, NOS	9595/3	21	4.2%	19	4.0%
Hodgkin's disease mixed cellularity, NOS	9652/3	14	2.8%	14	3.0%
Hodgkin's disease, NOS	9650/3	20	4.0%	14	3.0%
mixed small and large cell, diffuse	9675/3	11	2.2%	12	2.7%
mycosis fungoides	9700/3	12	2.4%	12	2.6%
mixed small cleaved and large cell, follicular	9691/3	13	2.6%	10	2.2%
small cell cleaved, follicular	9695/3	11	2.2%	9	1.9%
immunoblastic, NOS	9684/3	7	1.4%	8	1.7%
large cell (Ki-I)	9714/3	12	2.4%	6	1.3%
large cell follicular, NOS	9698/3	3	0.6%	6	1.3%
all other types		56	11.3%	62	13.4%
<b>all cancers</b>		<b>497</b>		<b>462</b>	

## 17.6. STAGE

Lymphomas, both Hodgkin's and non-Hodgkin's, were staged by the Ann Arbor (UICC) system regardless of the organ of origin (Table 17.7). Staging was available for 80% of cases. The largest number (129; 26%) were stage I cancers.

**Table 17.7. Ann Arbor staging of lymphomas**

T stage	SYSTEMIC SYMPTOMS					
	NO (A)		YES (B)		NOT KNOWN	
	cases	% of total	cases	% of total	cases	% of total
I	78	16%	6	1%	14	3%
Ie	8	2%	8	2%	3	1%
Ix	1	0%	1	0%	10	2%
II	37	7%	18	4%	7	1%
Ile	10	2%	8	2%	3	1%
Ilx	3	1%	4	1%	8	2%
III	28	6%	17	3%	7	1%
IIIe	5	1%	7	1%	1	0%
IIIs	1	0%	8	2%	1	0%
IIIe+s	1	0%	2	0%	1	0%
IIIx	0	0%	4	1%	5	1%
IV	29	6%	36	7%	21	5%
not staged	10	2%	4	1%	82	16%
<b>all stages</b>	<b>211</b>	<b>42%</b>	<b>123</b>	<b>25%</b>	<b>163</b>	<b>33%</b>
<b>all cancers</b>	<b>497</b>					

## 17.7. TREATMENT

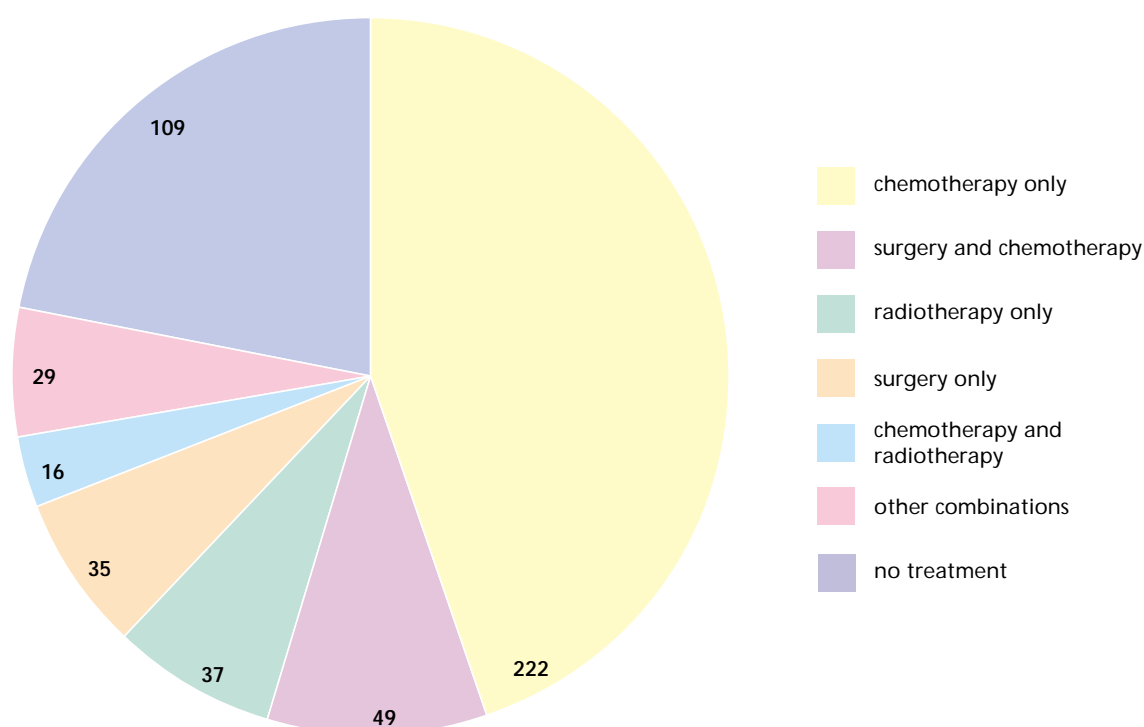
Chemotherapy was the most frequent treatment used (61%), followed by surgery (19%) (Table 17.8). The use of radiotherapy has declined from 15% in 1994 to 13% in 1997. Treatment combinations are shown in Figure 17.2.

**Table 17.8. Treatment summary**

TREATMENT	NUMBER OF 1997 CASES TREATED	TRENDS IN % OF CASES TREATED			
		1997	1996	1995	1994
surgery	95	19.1%	10.8%	11.6%	10.4%
chemotherapy	302	60.8%	60.9%	63.0%	60.9%
hormone	2	0.4%	0.4%		
radiotherapy	63	12.7%	14.0%	12.7%	15.1%
other treatment	19	3.8%	10.4%	3.8%	35.2%
all cases treated	388	78.1%	78.8%	78.1%	85.5%
no treatment	109	21.9%	21.2%	21.9%	14.5%
<b>all cases</b>	<b>497</b>	<b>497</b>	<b>463</b>	<b>424</b>	<b>463</b>

**Figure 17.2. Frequent treatment combinations**

Note: numbers indicated refer to the number of cases treated



## 17.8. SURVIVAL

Overall survival at five years was 55%±5% for men and 65%±4% for women. Survival was not greatly dependent on stage (Figure 17.3). Five-year survival for stage I cases was 68%±13% for men and 75%±8% for women, while survival for stage IV cases was 40%±8% for men and 52%±11% for women.

**Table 17.9. One to five year relative survival (± 95% confidence limits) for cancers diagnosed from 1994 to 1997**

sex	stage	cases	YEARS FROM DIAGNOSIS					
			1		3		5	
			survival	95% confidence limits (±)	survival	95% confidence limits (±)	survival	95% confidence limits (±)
males	I	172	0.86	0.06	0.77	0.08	0.68	0.13
	II	125	0.79	0.08	0.65	0.09	0.53	0.15
	III	98	0.72	0.09	0.57	0.11	0.60	0.11
	IV	205	0.57	0.07	0.38	0.08	0.40	0.08
	X	356	0.73	0.05	0.64	0.06	0.58	0.09
	<b>all</b>	<b>956</b>	<b>0.73</b>	<b>0.03</b>	<b>0.61</b>	<b>0.03</b>	<b>0.55</b>	<b>0.05</b>
females	I	164	0.83	0.06	0.75	0.08	0.75	0.08
	II	132	0.82	0.07	0.73	0.08	0.74	0.09
	III	92	0.78	0.09	0.65	0.11	0.65	0.12
	IV	130	0.65	0.09	0.52	0.10	0.52	0.11
	X	316	0.73	0.05	0.63	0.06	0.61	0.08
	<b>all</b>	<b>834</b>	<b>0.76</b>	<b>0.03</b>	<b>0.65</b>	<b>0.04</b>	<b>0.65</b>	<b>0.04</b>

**Figure 17.3. Relative survival by stage for cases diagnosed from 1994 to 1997**

