

## 18.1. INTRODUCTION AND SUMMARY

**Table 18.1. Summary of incidence and mortality statistics: leukaemia**

	INCIDENT CASES			DEATHS		
	males	females	both sexes	males	females	both sexes
<b>All cancers (ICD-O 2 C42.1, M-9800 to M-9941 and ICD-10 C91 to C95)</b>						
1997 cases	195	144	339	124	90	214
% of all cancers	1.8%	1.3%	1.6%	3.1%	2.5%	2.8%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	10.8	7.8	9.3	6.9	4.9	5.9
World age-standardised rate	8.9	6.2		5.4	3.2	
European age-standardised rate	12.0	7.5		7.8	4.3	
cumulative risk (0-74)	0.8%	0.5%		0.5%	0.3%	
mortality/incidence ratio	0.636	0.625	0.631			
<b>Time trends (all cancers)</b>						
1994 cases	180	153	333	109	87	196
1995 cases	203	113	316	101	80	181
1996 cases	189	138	327	120	90	210
1997 cases	195	144	339	125	90	215
1994-1997 average	192	137	329	114	87	201
annual % change 1994-97	+1.1%	-0.4%	+0.1%	+5.1%	+1.0%	+3.4%
95% confidence limits of trend	(-3.8%; 6.1%)	(-14.3%; 15.8%)	(-2.1%; 2.3%)	(-1.0%; 11.6%)	(-3.2%; 5.3%)	(-1.7%; 8.7%)

Leukaemia cases made up 1.6% of all cancers registered, with a mortality of 60% (Table 18.1). The incidence rates have not changed significantly since 1994.

## 18.2. AGE AND SEX PROFILE

*Table 18.2. Annual average number of cases, age-specific incidence rate and relative age-specific rate for leukaemia 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	9	7	18.3	8	6	27.7
5-9	4	3	13.4	4	3	17.5
10-14	4	2	9.0	3	2	11.7
15-19	4	2	5.9	4	2	6.5
20-24	3	2	3.6	3	2	1.6
25-29	3	3	2.7	3	2	0.8
30-34	4	3	2.2	2	2	0.5
35-39	4	3	1.5	3	3	0.6
40-44	6	5	1.5	4	4	0.7
45-49	5	4	0.8	6	5	0.7
50-54	10	10	0.9	8	9	0.9
55-59	10	13	0.7	8	10	0.7
60-64	23	33	1.0	8	11	0.6
65-69	22	36	0.8	17	25	1.0
70-74	30	60	0.9	18	29	1.0
75-79	23	64	0.8	19	39	1.1
80-84	19	91	0.9	15	44	1.1
>85	10	91	0.8	7	27	0.7
<b>all ages</b>	<b>192</b>	<b>10.7</b>	<b>1.0</b>	<b>137</b>	<b>7.5</b>	<b>1.0</b>

The largest number of cases for men was in the 70 to 74 year age group with the highest relative rate in the 0 to 4 age group (9 cases) (Table 18.2). For women the largest number of cases was in the 75 to 79 year age group and the highest relative rate in those aged 0 to 4 (8 cases).

## 18.3. SUBSITES

No subsites were recorded for leukaemia.

## 18.4. GEOGRAPHICAL DISTRIBUTION

**INTERNATIONAL**

Apart from the very low rate in Norway, international variation in leukaemia rates was small. Ireland ranked 7th in incidence for both men and women (Table 18.3). The incidence was higher than that registered in Northern Ireland, England or Scotland.

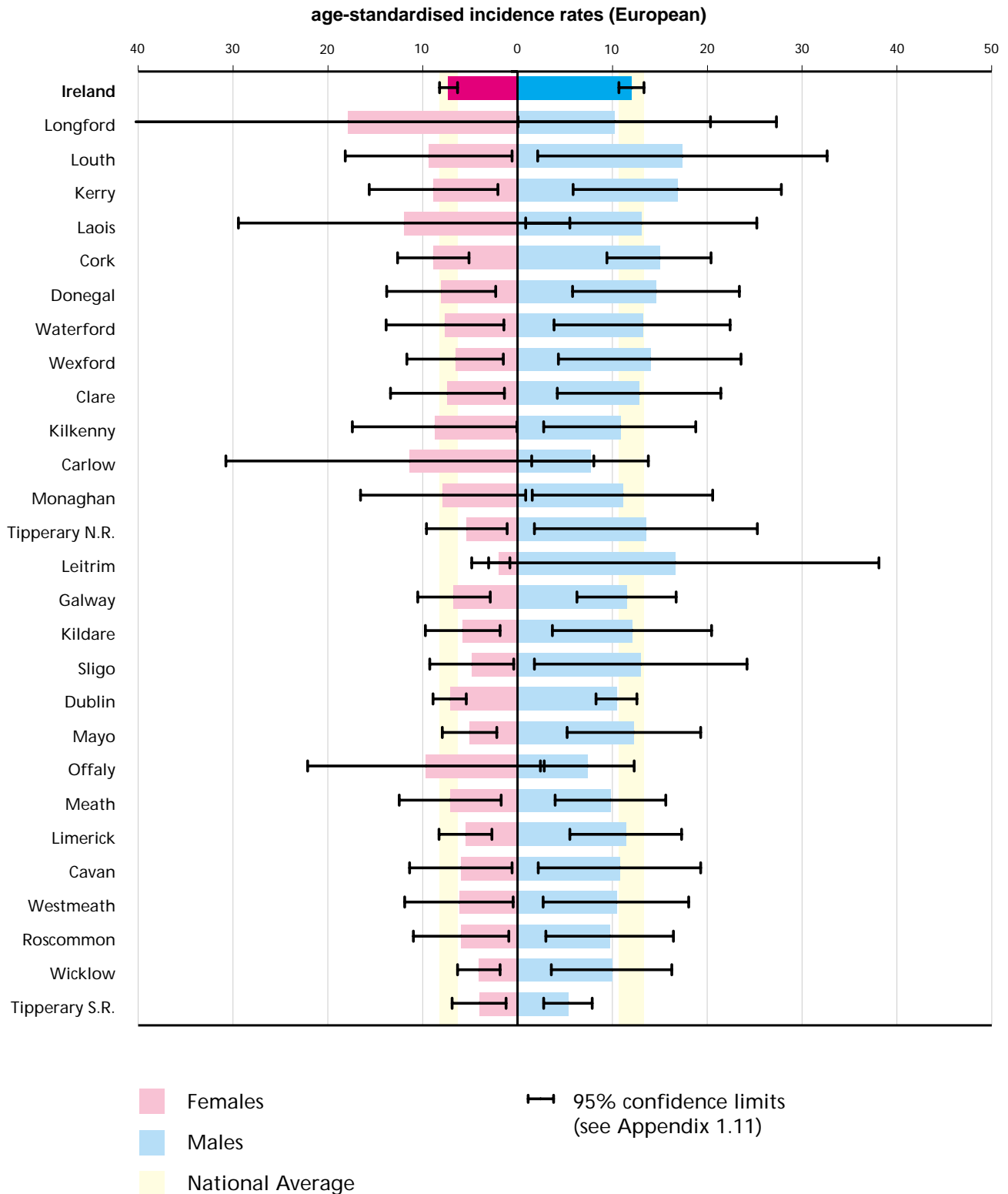
**Table 18.3. Age-adjusted annual incidence rate (European standard population) and rank of rates by country, 1995: leukaemia (invasive cases only)**

	MALES		FEMALES	
	age-standardised rate	rank	age-standardised rate	rank
Switzerland	18.7	1	7.2	8
Malta	17.1	2	8.6	3
Iceland	13.2	6	9.6	1
Estonia	13.9	3	8.4	4
Italy	13.4	4	8.8	2
Denmark	13.2	5	8.0	5
<b>Ireland (1994-1997)</b>	<b>12.0</b>	<b>7</b>	<b>7.3</b>	<b>7</b>
Sweden	10.7	12	7.8	6
N. Ireland	10.9	10	7.2	9
Slovakia	11.5	8	6.5	13
Germany	10.7	13	7.0	10
England	10.7	13	6.9	11
Scotland	11.2	9	5.9	15
Austria	10.2	15	6.5	13
France	10.0	17	6.5	12
Slovenia	10.8	11	5.4	17
Czech Republic	10.0	16	5.4	17
Spain	9.3	19	5.6	16
Finland	9.4	18	5.3	19
Poland	9.1	20	3.9	20
Bulgaria	5.1	22	3.8	21
Netherlands	5.9	21	2.6	22
Norway	1.5	23	0.8	23

**NATIONAL**

The highest incidence rate for men was in Louth (144% of expected) and the lowest in Tipperary South (44% of expected) (Figure 18.1). The highest rate for women was in Longford (244% of expected) and the lowest in Leitrim (27% of expected). None of the differences from average was statistically significant.

**Figure 18.1. Age-adjusted (European population) rates and 95% confidence limits by county, 1994 to 1997: leukaemia**



## 18.5. BASIS OF DIAGNOSIS AND HISTOLOGICAL TYPE

**Table 18.4. Most valid basis of diagnosis of cancer**

BASIS OF DIAGNOSIS	CASES	% OF TOTAL
<b>tissue diagnosis</b>	<b>267</b>	<b>78.8%</b>
histology of primary	6	1.8%
bone marrow	261	77.0%
<b>clinical diagnosis</b>	<b>72</b>	<b>21.2%</b>
clinical	4	1.2%
blood film	67	19.8%
radiology	1	0.3%
<b>all cancers</b>	<b>339</b>	

77% per cent of the cases were diagnosed by bone marrow aspiration and 20% by blood film (Table 18.4).

Chronic lymphoid leukaemia was the commonest type, making up 34% of the total (Table 18.5), followed by acute myeloid (20%) and acute lymphoid (13%).

**Table 18.5. Morphology**

Description	ICD-O-2 code	1997		1994-1997 AVERAGE	
		cases	% of total	cases	% of total
chronic lymphoid	9823/3	116	34.2%	117	35.7%
acute myeloid	9861/3	69	20.4%	63	19.2%
acute lymphoid	9821/3	45	13.3%	47	14.3%
chronic myeloid	9863/3	32	9.4%	28	8.4%
leukaemia NOS	9800/3	18	5.3%	18	5.6%
acute leukaemia NOS	9801/3	14	4.1%	12	3.5%
acute myelofibrosis	9932/3	10	2.9%	10	2.9%
hairy cell	9940/3	5	1.5%	7	2.1%
chronic myelomonocytic	9868/3	5	1.5%	5	1.6%
acute promyelocytic	9866/3	6	1.8%	5	1.4%
acute myelomonocytic	9867/3	4	1.2%	4	1.3%
acute monocytic	9891/3	5	1.5%	3	0.8%
myeloid NOS	9860/3	1	0.3%	3	0.8%
chronic leukaemia NOS	9803/3	0	0.0%	1	0.3%
lymphoid NOS	9820/3	1	0.3%	1	0.3%
acute megakaryoblastic	9910/3	0	0.0%	1	0.3%
all other types		8	2.4%	6	1.7%
<b>all cancers</b>		<b>339</b>		<b>329</b>	

## 18.6. TREATMENT

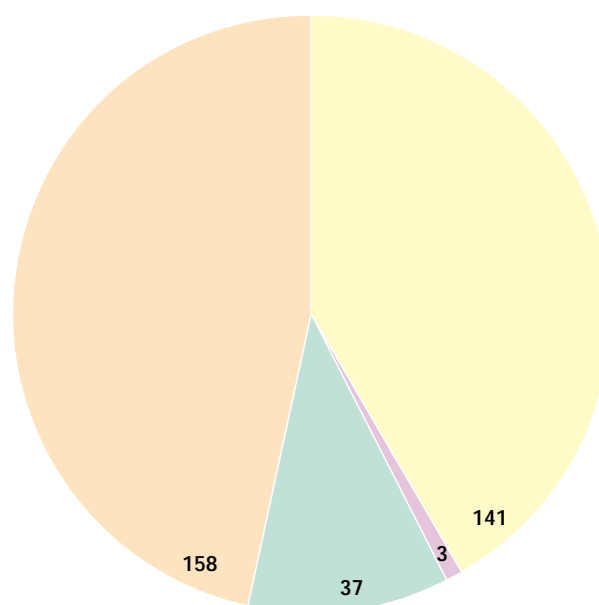
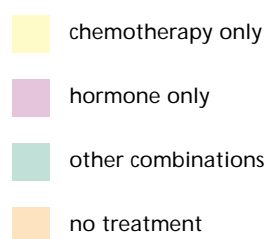
Many patients (47%; 158 patients) were recorded as having no specific treatment (Table 18.6). Almost all of the patients treated had chemotherapy. Combination therapy was infrequent (Figure 18.2).

**Table 18.6. Treatment summary**

TREATMENT	NUMBER OF 1997 CASES TREATED	TRENDS IN % OF CASES TREATED			
		1997	1996	1995	1994
surgery	3	0.9%	0.3%	0.0%	0.3%
chemotherapy	155	45.7%	47.7%	47.8%	44.7%
hormone	4	1.2%	0.6%		
radiotherapy	4	1.2%	1.2%	1.2%	1.2%
other treatment	30	8.8%	11.0%	8.8%	21.3%
all cases treated	181	53.4%	56.0%	53.4%	59.2%
no treatment	158	46.6%	44.0%	46.6%	40.8%
<b>all cases</b>	<b>339</b>	<b>339</b>	<b>327</b>	<b>316</b>	<b>333</b>

**Figure 18.2. Frequent treatment combinations**

Note: numbers indicated refer to the number of cases treated



Most of the untreated patients (87; 55%) had chronic lymphatic leukaemia (Table 18.7).

**Table 18.7. Untreated leukaemias**

DESCRIPTION	CASES	NUMBER UNTREATED	% UNTREATED
<b>all leukaemias</b>	<b>339</b>	<b>158</b>	<b>47%</b>
chronic lymphoid	116	87	75%
acute myeloid	69	27	39%
acute lymphoid	45	3	7%
chronic myeloid	32	7	22%
leukaemia, NOS	18	10	56%
acute leukaemia, NOS	14	7	50%
acute myelofibrosis	10	9	90%
hairy cell	5	0	0%
chronic myelomonocytic	5	3	60%
acute promyelocytic	6	0	0%
acute myelomonocytic	4	1	25%
acute monocytic	5	0	0%
myeloid, NOS	1	1	100%
lymphoid, NOS	1	1	100%
all other types	8	2	25%

## 18.7. SURVIVAL

Overall survival at five years was  $47\% \pm 7\%$  for men and  $57\% \pm 7\%$  for women (Table 18.8). Five-year survival from lymphoid leukaemia was  $58\% \pm 10\%$  for men and  $76\% \pm 9\%$  for women (Figure 18.3). Survival from myeloid leukaemia was  $28\% \pm 10\%$  for men and  $36\% \pm 9\%$  for women.

**Table 18.8. One to five year relative survival ( $\pm$  95% confidence limits) for cancers diagnosed from 1994 to 1997**

sex	type	cases	YEARS FROM DIAGNOSIS					
			1		3		5	
			survival	95% confidence limits ( $\pm$ )	survival	95% confidence limits ( $\pm$ )	survival	95% confidence limits ( $\pm$ )
males	lymphoid	401	0.83	0.05	0.69	0.06	0.58	0.10
	myeloid	230	0.51	0.07	0.35	0.08	0.28	0.10
	other	135	0.59	0.08	0.46	0.10	0.43	0.13
	<b>all</b>	<b>766</b>	<b>0.69</b>	<b>0.03</b>	<b>0.55</b>	<b>0.05</b>	<b>0.47</b>	<b>0.07</b>
females	lymphoid	267	0.89	0.05	0.79	0.07	0.76	0.09
	myeloid	200	0.52	0.07	0.39	0.08	0.36	0.09
	other	81	0.60	0.11	0.43	0.13	0.48	0.15
	<b>all</b>	<b>548</b>	<b>0.71</b>	<b>0.04</b>	<b>0.59</b>	<b>0.05</b>	<b>0.57</b>	<b>0.07</b>

**Figure 18.3. Relative survival by type for cases diagnosed from 1994 to 1997**

