20. Childhood Cancers

KEY FACTS

- On average 52 childhood cancers were registered per year.
- Rare cancers - 0.6 % of tumours.
- Northern Ireland age specific rates in accepted normal range.
- Higher rates for boys.
- 0-4 age group at greatest risk.
- Good prognosis for majority of cases.

Cancers in childhood (i.e. children under the age of 15years) averaged 28 cases per year for boys and 24 for girls over the 1993-95 period. Childhood cancer was rare, accounting for only 0.6% of all cancers. Mortality, more so than incidence, was variable from year to year reflecting changes in the small numbers concerned.

Age Profile

The age specific rates of childhood cancer are remarkably consistent world wide and a 'normal' range for the rates based on this has been proposed (ref: 18). The Northern Ireland age specific rates fall within this 'normal' range. As elsewhere, boys in the 0-4 age group are at greatest risk and in general have higher rates than girls.

Geographical Distribution of Disease

The number of cases were too small to permit meaningful comparisons across areas at a local scale. However, in a wider European context the crude rates for both girls and boys are middle ranking. Table 51 gives the 1995 Northern Ireland crude rates by sex compared to the highest and lowest ranked European rates.

Table 51 - Comparative Crude Rates for 0-14 Year Olds for Males and Females

Males **Rank**	**Country**	**Crude Rate (per 100,000)**
Lowest	Latvia	9.59
	Northern Ireland	13.52
Highest	Croatia	17.63
Females **Rank**	**Country**	
Lowest	Malta	6.27
	Northern Ireland	11.04
Highest	Sweden	15.16

Sites

Leukaemia and brain tumours account for half the childhood cancers in both sexes. Of the remaining, most are embryonal in origin with common solid adult tumours occurring infrequently. In all cases tumours were Microscopically Verified (a small number of tumours without microscopic verification were explicitly excluded from the analysis). Tables 52 and 53 provide details for the sites of childhood cancer.

Table 52 Numbers of Male Childhood Cancers (1993-95 totals) by Age Group and Site

SITE	ICD-9	0-4	5-9	10-14	Total 0-14yrs
Bone	170	0	0	3	3
Connective Tissue	171	3	3	1	7
Melanoma	172	0	1	0	1
Testis	186	2	0	0	2
Bladder	188	1	0	0	1
Kidney & Other Urinary	189	5	0	0	5
Eye	190	2	0	0	2
Brain	191	9	5	4	18
Other Endocrine	194	5	0	0	5
Other ill-defined	195	1	0	0	1
Lymphosarcoma	200	1	0	0	1
Hodgkin's	201	1	1	0	2
Other Lymphoid	202	1	3	0	4
Lymphoid Leukaemia	204	14	3	10	27
Myeloid Leukaemia	205	1	1	0	2
Monocytic Leukaemia	206	0	2	1	3
Totals		46	19	19	84

Table 53 Numbers of Female Childhood Cancers (1993-95 totals) by Age Group and Site

SITE	ICD-9	0-4	5-9	10-14	Total 0-14yrs
Bone	170	1	0	1	2
Connective Tissue	171	2	0	2	4
Kidney & Other Urinary	189	2	0	0	2
Eye	190	6	0	0	6
Brain	191	8	1	8	17
Other Nervous	192	1	0	1	2
Thyroid	193	0	2	0	2
Other Endocrine	194	3	2	1	6
Other ill-defined	195	2	0	0	2
Secondary unspecified	198	1	0	0	1
Hodgkin's	201	0	1	0	1
Other Lymphoid	202	1	2	0	3
Lymphoid Leukaemia	204	12	2	4	18
Myeloid Leukaemia	205	1	2	2	5
Monocytic Leukaemia	206	2	0	0	2
Totals		42	12	19	73

Comment

Despite the high profile coverage that childhood cancer receives due to its emotional and psychological consequences on patients and their families, its occurrence is extremely rare. In most cases there are no known causes although around 5% may have an attributable genetic component linked to family history.

Concern has been expressed over the effect of electromagnetic fields (such as power lines and pylons) and the relationship with childhood cancers. To date the bulk of the evidence suggests either no effect or an insignificant one. Research continues in an attempt to categorically specify the relationship, if any.

Similarly, the known risk of exposure to ionising radiation does not explain elevated childhood cancers around the Seascale Nuclear Reprocessing Plant. An alternative hypothesis linked to infection in areas of high population mobility also remains unsubstantiated.

In Northern Ireland a joint research project between the Registry and the National Cancer Registry of Ireland is underway to investigate the spatial distribution of selected cancers including childhood and adult leukaemias.

Modern treatment regimes have resulted in a high survival rate and the prognosis for childhood cancer is now very good.