National Cancer Registry Ireland **Cancer Trends**

Childhood cancer

This is the second trends report NCRI has published on childhood cancers, updating a previous report covering 1994-2011[1]. To facilitate summary of the amount and complexity of material included, presentation and layout has been in general retained from that report.

Case numbers and histological types

Between 1994 and 2014 an average of 137 cancers were diagnosed per year in children aged under 15 (Table 1). In older teenagers (15-19 years), an additional 74 cases were diagnosed per year, giving a total of 211 cases per year for ages 0-19 (Table 1). These figures mostly involve malignant cancers but the International Classification of Childhood Cancer (ICCC)[2], followed in this report, also includes non-malignant tumours of the brain & central nervous system (c10% of cases tabulated here). [International guidelines on classification of carcinoid tumours of the appendix have changed recently, but here we have provisionally counted all carcinoids as malignant, in diagnostic group XI.]

The ICCC subdivides childhood cancers into 12 main diagnostic groups, as listed in Table 1. Approximately 2 in every 3 cancers in young children (aged <15 years) were either haematological malignancies (i.e. leukaemia and lymphoma) or tumours of the brain and nervous system (ICCC groups I-III). Although these were also the main cancers in older teenagers, 27% of cancers at ages 15-19 were in the "other epithelial tumours and melanoma" category. The remainder of this report deals with cancer in children aged <15 only, the standard grouping used for most international analyses.

Table 1. Annual average number of cancers diagnosed in children and teenagers in Ireland, 1994-2014

	<15 years		15-19 years		total
	N	% of all	N	% of all	N
all cancers (ICCC definition)	137		74		211
ICCC group#					
I leukaemias & related	41	30%	8	11%	49
II lymphomas & related	14	10%	17	23%	31
III brain & CNS*	35	26%	12	16%	47
IV neuroblastomas & peripheral nervous system tumours	9	6%	<1	<1%	9
V retinoblastoma	3	2%	0	0%	3
VI renal tumours	8	5%	<1	<1%	8
VII hepatic tumours	2	1%	1	1%	2
VIII malignant bone tumours	6	4%	4	6%	10
IX soft tissue sarcomas	9	6%	4	6%	13
X gonadal & germ cell tumours	4	3%	7	10%	11
XI other epithelial tumours & melanomas	6	5%	20	27%	26
XII other & unspecified	1	1%	<1	<1%	1

counts are rounded to the nearest whole number; see Appendix (p. 9) for individual years
International Classification of Childhood Cancer, 3rd edition[2]
* central nervous system

Incidence rates and variation between boys and girls

The world age-standardised rate (WASR) of childhood cancer in Ireland during 1994-2014 averaged 158 cases per million per year (Table 2), a slight increase from the rate (150.5) for 1994-2011[1]. The European age-standardised rate (EASR) was marginally lower than the WASR, reflecting the EASR's lower weighting of the 0-4 age-group, which has the highest incidence. The WASR is used in the rest of this report. Excluding non-malignant tumours and non-melanoma skin cancers (NMSC), the WASR was 142 cases per million per year.

Incidence rates for all cancers combined were 8% higher in boys than in girls, but the difference was not statistically significant.

Table 2. Number of cases diagnosed per year and incidence rates per million in girls and boys aged under 15, 1994-2014

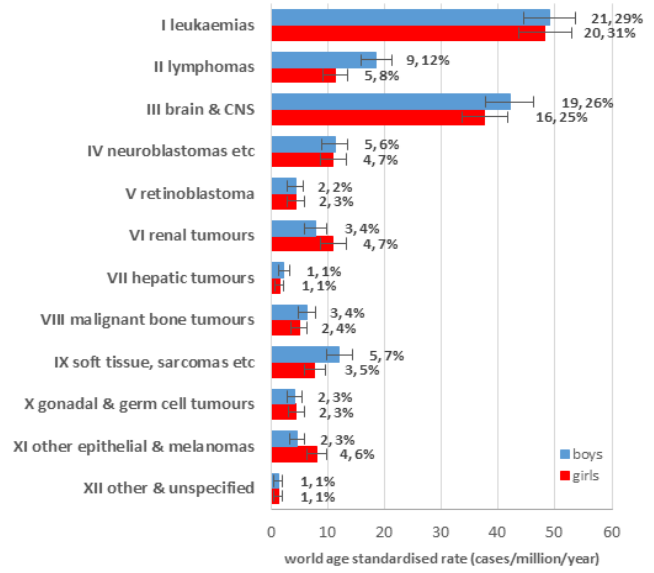
	girls	boys	total
all ICCC I-XII cancers			
cases/year	64	73	137
crude rate	148	160	154
WASR*	152	164	158
(95% CI)	(143.5-159.8)	(155.8-172.3)	(152.0-163.6)
EASR†	150	162	156
(95% CI)	(141.9-158.0)	(154.2-170.4)	(150.4-161.8)
malignant cancers only & excl NMSC#			
cases/year	57	65	123
crude rate	132	143	138
WASR*	136	148	142
(95% CI)	(125.5-146.2)	(137-158.1)	(134.3-149.1)
EASR†	134	146	140
(95% CI)	(123.9-144.3)	(135.3-156.1)	(132.6-147.2)

*WASR: world age-standardised rate (cases per million per year)
†EASR: European age-standardised rate (cases per million per year)
NMSC: non-melanoma skin cancer

Leukaemias (ICCC group I) had the highest incidence rate (41 children under 15 annually or an age-standardised rate of 49 cases per million), and incidence was slightly (though non-significantly) higher in boys than in girls (Figure 1). Brain/CNS cancers (group II) were the second most commonly diagnosed group (40 cases per million), again with (non-significantly) higher incidence rates in boys.

On average, 9 boys and 5 girls were diagnosed with lymphoma (group III) each year. The incidence rate in boys (19 cases per million) was significantly higher than in girls (11 cases per million). The incidence rate of soft-tissue sarcomas (group IX) was also significantly higher in boys (12 cases per million) than in girls (8 cases per million). The incidence rate for the "other epithelial tumours & melanomas" (group XI) was significantly higher in girls (8 cases per million) than in boys (5 cases per million). Rates of other cancers did not differ significantly by sex.

Figure 1. Incidence rates of each childhood cancer type (ICCC I-XII) for girls and boys aged under 15 years, 1994-2014. Annual average numbers & %s of cases are shown.



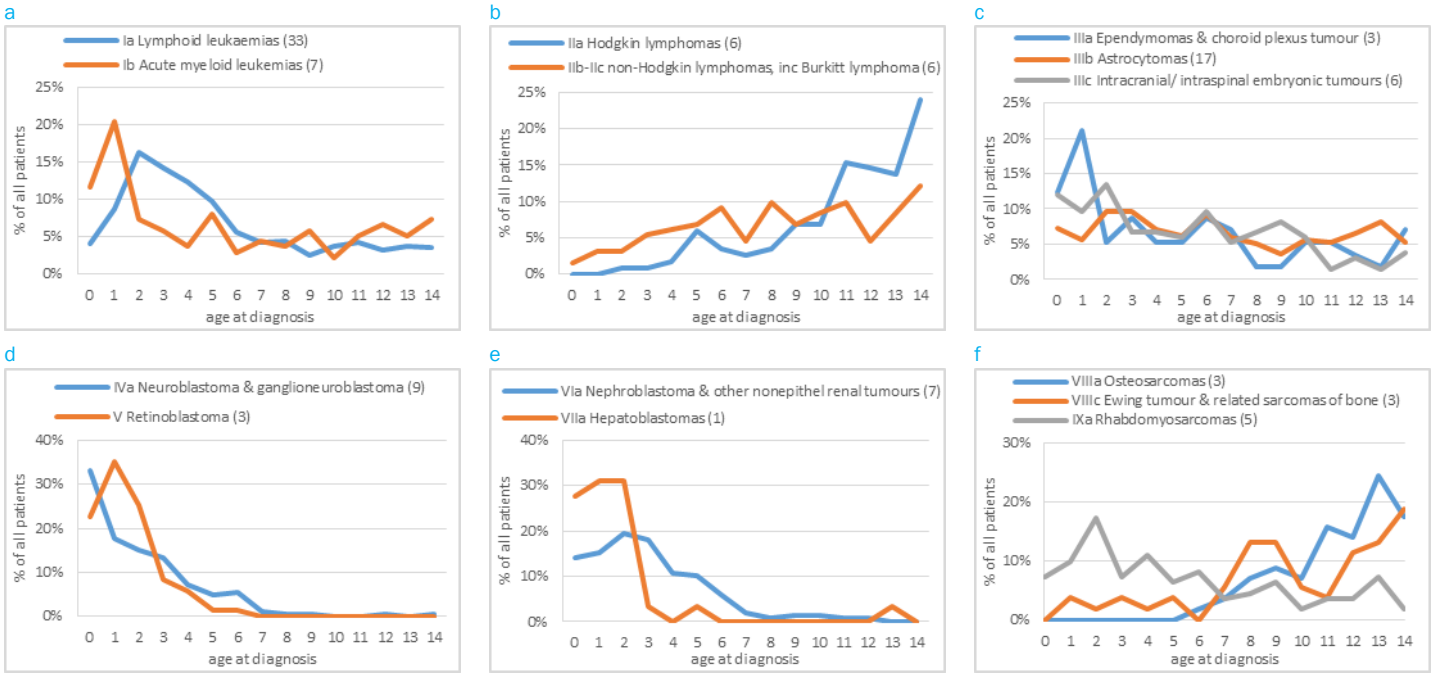
Age at diagnosis

There was considerable variation between cancer types in the age at which children were diagnosed. Figure 2 illustrates the percentage distribution of the most frequent cancer types by individual year of age. Some cancers were more frequent in very young children and rarer in older boys and girls. Neuroblastomas and ganglioneuroblastomas were particularly rare in children aged over 6 years; while almost all retinoblastomas and hepatoblastomas were diagnosed in children aged 4 or under (Figure 2d, e).

Most children diagnosed with lymphoma were older, particularly in the case of Hodgkin lymphoma which was more frequent in children over 10 years (Figure 2b). Hodgkin lymphoma is most frequently diagnosed in children and young adults aged over 15[3]. Osteosarcomas were also much rarer in very young children and most patients were aged over 10 when they were diagnosed (Figure 2f). Leukaemia (Figure 2a) and cancers of the brain and central nervous system (Figure 2c) had a somewhat more even distribution, although acute myeloid leukaemia and ependymomas of the brain were most frequently registered in very young children, aged 2 or younger.

Overall, there was relatively little change in the distribution of cancers by age at diagnosis since the previous report[1].

Figure 2. Age at diagnosis for the most frequent childhood cancer subgroups, 1994-2014



** numbers in brackets after titles indicate the annual average number of cases diagnosed per year*

Geographical distribution

Incidence rates of children's cancers varied little between the four health regions in Ireland (Table 3). Incidence rates for all cancers combined, leukaemia and brain & CNS appeared to be highest in the HSE Dublin & Mid-Leinster region, but there were no statistically significant differences between different HSE regions overall or for any of the individual cancer types.

Table 3. Incidence rates for all childhood cancers (ICCC I-XII, <15 years) by HSE region, 1994-2014

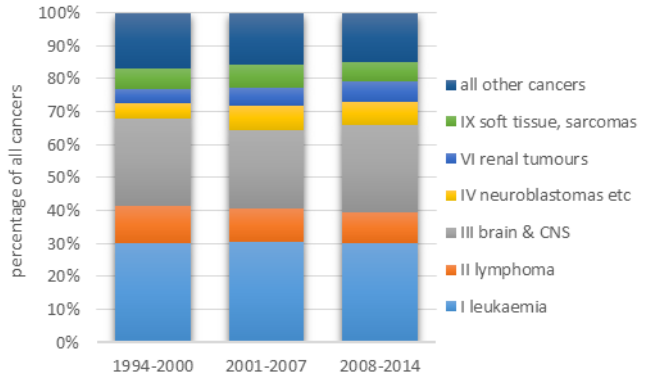
	cases/year	rate (WASR)*	95% CI
all cancers			
Dublin & North East	29	155.2	142.9 - 167.4
Dublin & Mid Leinster	40	162.8	151.8 - 173.8
South	35	159.0	147.5 - 170.6
West	32	152.8	141.1 - 164.5
I leukaemia			
Dublin & North East	9	48.8	41.9 - 55.8
Dublin & Mid Leinster	12	50.5	44.3 - 56.7
South	11	50.2	43.6 - 56.8
West	9	44.5	38.1 - 50.8
II lymphoma			
Dublin & North East	3	14.7	11.1 - 18.3
Dublin & Mid Leinster	4	14.8	11.6 - 17.9
South	4	16.3	12.7 - 19.9
West	3	14.2	10.7 - 17.6
III brain & CNS			
Dublin & North East	7	37.2	31.3 - 43.2
Dublin & Mid Leinster	11	43.0	37.4 - 48.6
South	9	41.5	35.7 - 47.4
West	8	36.5	30.8 - 42.2

* WASR: world age-standardised rate (cases per million per year)

Incidence trends over time

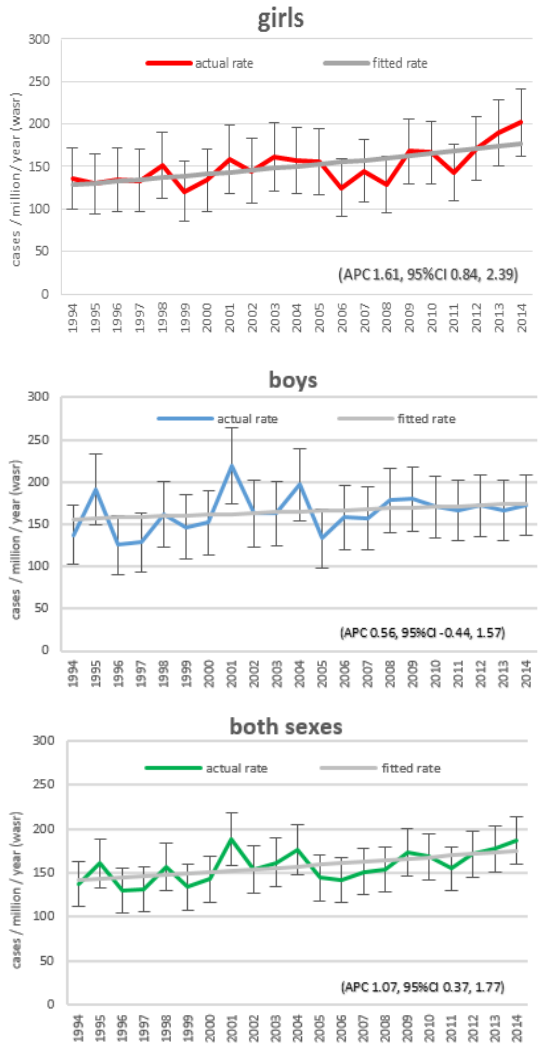
In general there was little change in the distribution of cancer types diagnosed over time (Figure 3). Leukaemia accounted for 30% of all childhood cancers in each time period since 1994, whereas brain & CNS varied between 24% and 27% over time. There was a slight decline in the proportion of lymphoma, from representing 12% of cancers in 1994-2000 to 9% in 2008-2014, and a slight increase in renal tumours from 4% to 6%.

Figure 3. Percentage breakdown of childhood cancers (ICCC I-XII, <15 years), 1994-2000, 2001-2007 & 2008-2014



Although the distribution of cancer types was stable, incidence rates of all cancers combined increased significantly, by 27%, between the periods 1994-2000 and 2008-2014. Annual rates are shown below (Figure 4).

Figure 4. Trends in incidence of all childhood cancers (ICCC I-XII, <15 years), 1994-2014: average annual percentage change (APC) is shown

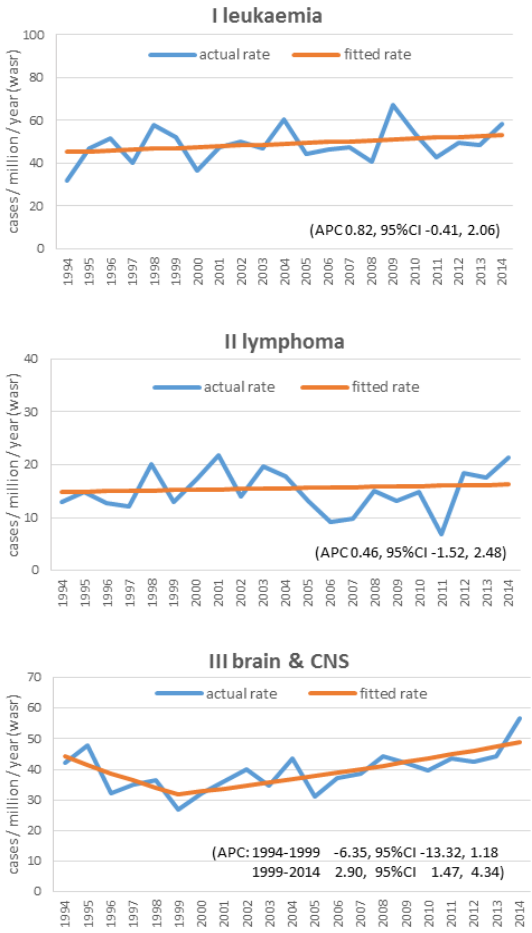


Annual incidence rates varied from 121 to 202 cases per million per year in girls (46-98 patients per year) and from 125 to 219 cases per million per year in boys (52-91 patients per year).

The previous childhood cancer trends report[1] found that childhood cancers in girls increased non-significantly by 0.8% per year 1994-2011. The incidence rate for girls appeared to increase more steeply between 2011 and 2014, producing a significant average increase of 1.6% per year 1994-2014. No significant trend was seen in rates among boys, but rates for both sexes combined increase significantly by 1.1% per year.

Incidence trends are described for the three most common individual cancer groups (girls and boys combined) in Figure 5.

Figure 5. Trends in incidence of the most frequent childhood cancer groups (<15 years), 1994-2014



Leukaemia incidence rates varied considerably between years and showed only weak evidence of any longer-term trend, with an annual percentage increase of 0.8%. Leukaemia case numbers ranged from 25 patients in 1994 to 60 in 2009.

Lymphoma incidence rates were also very variable over time, with an average increase of 0.5% per year (Figure 5). Cases ranged from 7 in 2011 to 22 in 2014.

There was an initial non-significant decline in incidence rates of brain & CNS tumours (Figure 5), with cases falling from 39 patients in 1994 to 21 patients in 1999. Rates subsequently increased significantly by 2.9% per year, with 56 cases in 2014.

Tumour-directed treatment

Chemotherapy was the principal treatment for all childhood cancers combined, either alone or in combination with surgery and/or radiotherapy. Between 2008 and 2013 over two-thirds of all patients received chemotherapy (Table 4).

For all cancers combined, there has been little change over time in the percentage of patients in each treatment category. About 10% of patients apparently did not receive specifically tumour-directed treatment within 12 months of diagnosis. However it should be noted that some patients died before treatment could begin, and a small number of patients were treated after the 12 month cut-off shown here or had other therapies not directed specifically at reducing/removing their cancer.

Table 4. Combinations of the main categories of treatment* for all childhood cancers (ICCC I-XII) and the 3 largest cancer groups diagnosed in 1994-2000, 2001-2007 & 2008-2013

	1994-2000	2001-2007	2008-2013
all cancers (ICCC-I-XII)	N=816	N=927	N=954
surgery only	19%	16%	18%
chemotherapy only#	38%	42%	38%
radiotherapy only	3%	3%	2%
surgery & chemotherapy	12%	15%	15%
surgery & radiotherapy	3%	3%	2%
radio- & chemotherapy	7%	5%	7%
all three treatments	6%	9%	8%
no treatment	12%	7%	9%
I leukaemia	N=245	N=281	N=285
surgery only	0%	0%	0%
chemotherapy only#	87%	91%	94%
radiotherapy only	0%	0%	0%
surgery & chemotherapy	0%	1%	0%
surgery & radiotherapy	0%	0%	0%
radio- & chemotherapy	5%	2%	2%
all three treatments	0%	0%	0%
no treatment	7%	5%	3%
II lymphoma	N=94	N=94	N=86
surgery only	3%	2%	3%
chemotherapy only#	70%	74%	51%
radiotherapy only	5%	3%	0%
surgery & chemotherapy	7%	10%	6%
surgery & radiotherapy	0%	0%	0%
radio- & chemotherapy	10%	2%	29%
all three treatments	0%	0%	1%
no treatment	4%	9%	9%
III brain & CNS	N=215	N=220	N=246
surgery only	36%	37%	32%
chemotherapy only#	4%	8%	10%
radiotherapy only	9%	9%	6%
surgery & chemotherapy	5%	8%	9%
surgery & radiotherapy	7%	10%	6%
radio- & chemotherapy	3%	3%	6%
all three treatments	10%	13%	9%
no treatment	25%	12%	22%

* only treatments received within 12 months of diagnosis are included
# or chemotherapy followed by bone marrow transplant (BMT) or stem cell transplant (SCT)

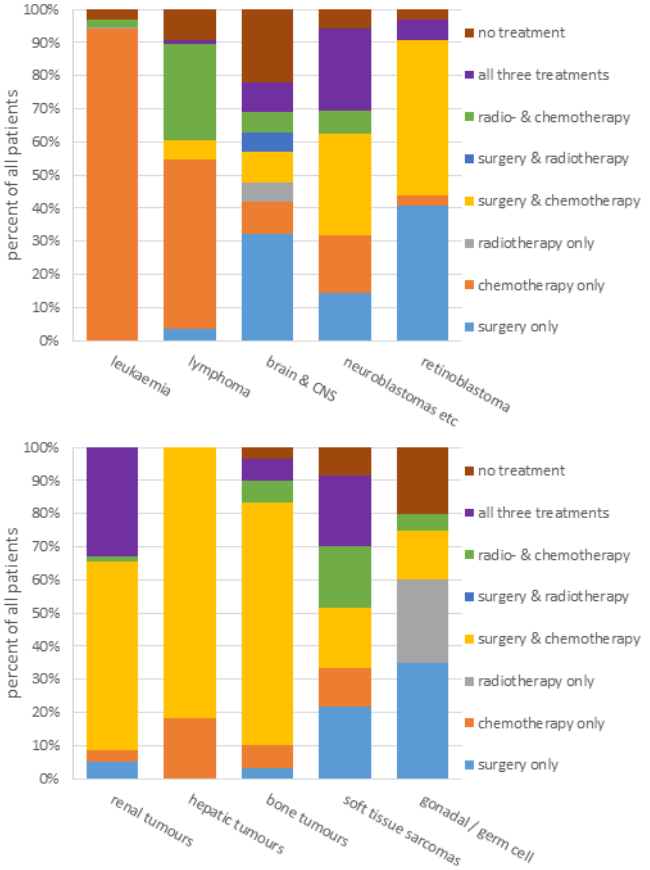
Treatment varied considerably between the three most common cancers diagnosed (Table 4). Almost all leukaemia patients received chemotherapy. In over 90% of cases, patients had this treatment alone (or chemotherapy followed by bone marrow or stem cell transplant (BMT/SCT)).

Similarly lymphoma patients were treated mostly with chemotherapy alone (or followed by BMT/SCT), although there was a notable increase in the proportion of patients receiving chemotherapy in combination with radiotherapy in 2008-2013 compared to 1994-2000. Radiotherapy without chemotherapy was not used at all during the latter period.

In contrast to the haematological malignancies, about 60% of patients with brain & CNS tumours were treated surgically, either alone or together with chemotherapy and radiotherapy. However approximately 1 in 5 patients with brain & CNS tumours had no recorded tumour-directed treatment within a year of their diagnosis.

Figure 6 illustrates the treatment combinations received by children diagnosed with the ten main ICCC diagnostic groups during 2008-2013. Along with brain & CNS patients, children diagnosed with retinoblastoma and gonadal/germ cell tumours had the highest proportion of treatment involving surgery only (>30% of children). Surgery in combination with chemotherapy was the most common treatment for both neuroblastomas and retinoblastoma as well as for renal, hepatic and bone cancers.

Figure 6. Combinations of the main categories of treatment for individual cancer groups (ICCC I-XII), 2008-2013

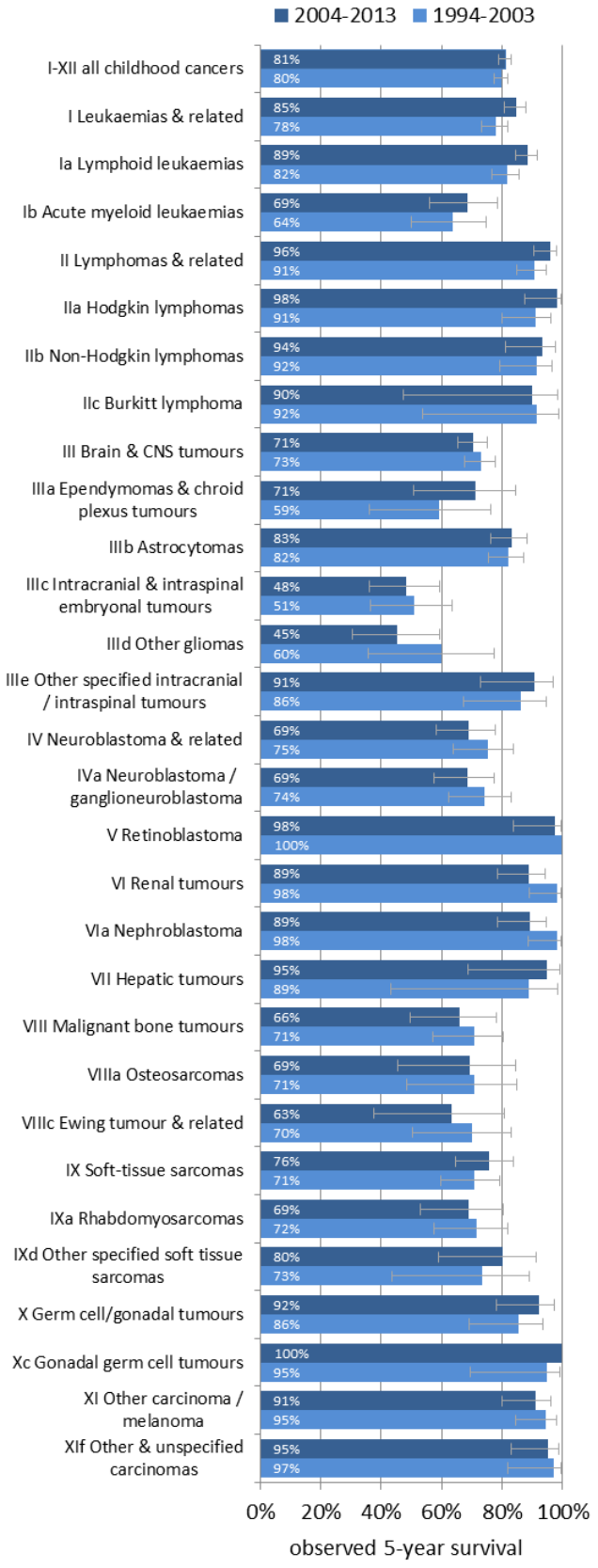


Approximately 20% of patients received radiotherapy, mostly in combination with either chemotherapy (lymphoma, neuroblastoma and soft tissue sarcoma) or with chemotherapy and surgery (neuroblastoma, retinoblastoma, renal cancers and soft tissue carcinomas).

Survival[4]

Five-year observed survival for all childhood cancers combined averaged 81% for cases diagnosed during the most recent ten-year period (2004-2013), and was similar (80%) for 1994-2013 as a whole (Figure 7).

Figure 7. Five-year observed survival by diagnosis period (with 95% confidence intervals) for all cancers combined and for the major diagnostic groups and subgroups, 1994-2013



Five-year survival exceeded 80% during 2004-2013 for 7 of the 12 major groups: leukaemias and related cancers (85%), lymphomas and related (96%), retinoblastoma (98%), renal tumours (89%), hepatic tumours (95%), germ cell and gonadal tumours (92%), and other carcinomas / melanomas (91%) (Figure 7).

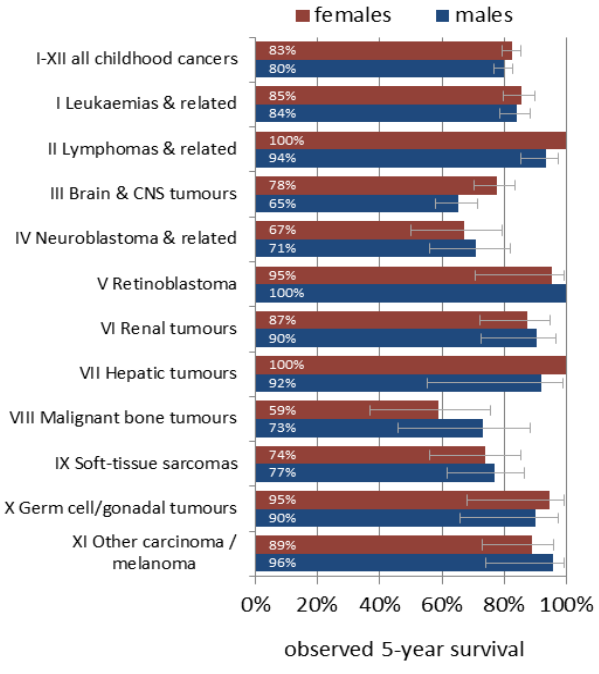
Average survival was poorer for patients with brain and other CNS tumours (71%), neuroblastoma & related tumours (69%), bone tumours (66%) and soft-tissue sarcomas (76%) (Figure 7).

Overall, there was little change in survival between diagnosis periods, but for five major groups (leukaemia, lymphomas, hepatic tumours, soft tissue sarcomas and germ cell / gonadal tumours) there was some indication of improvement. This was statistically significant only for leukaemias: five-year survival increased from 78% to 85%, equivalent to about a one-third reduction in mortality risk (age/sex/casemix-adjusted hazard ratio 0.67 [95% CI 0.49-0.93]. P=0.167). For lymphomas, improvements between the two periods were not significant, but in further analysis, five-year survival improved from 87% for 1994-1999 cases to 96% for 2000-2006, equivalent to a c70% reduction in mortality (hazard ratio 0.29 [0.09-0.90], P=0.032).

Survival figures for specific subgroups include notably high survival for some subgroups (e.g. Hodgkin lymphoma) but poor survival for others (e.g. gliomas and embryonal tumours of the CNS) (Figure 7). Again, there was only limited evidence of improvements in survival (most notably among leukaemia and lymphoma subgroups), including a statistically significant improvement for lymphoid leukaemias: five-year survival improved from 82% to 89%, equivalent to almost a 40% reduction in mortality risk (age/sex-adjusted hazard ratio 0.61, 95% CI 0.40-0.91, P=0.016).

Survival variation between boys and girls was relatively minor (Figure 8), and not statistically significant overall or for any subgroup, having adjusted for age and case-mix.

Figure 8. Five-year observed survival by sex, 2004-2013



Prevalence: numbers of childhood cancer survivors

The total number of survivors of childhood cancer in Ireland is not known, as national cancer registration has only covered the years 1994 onwards. However, of the 2873 patients aged 0-14 who were diagnosed with cancer (or with benign brain/CNS tumours) during 1994-2014 (2882 different cancers), 2289 (80%) were still alive at the end of 2014 (Figure 9).

Of the survivors, 1201 (52%) were male, 1088 (48%) female; 1050 (46%) had first been diagnosed at ages 0-4, 575 (25%) at ages 5-9 and 664 (29%) at ages 10-14. These percentages are similar to those of all patients diagnosed during 1994-2014, except for a slightly higher proportion of males (53%) among all cases. At the end of 2014, the ages of survivors ranged from 0 to almost 36 years, and the highest proportion (32%) had been diagnosed less than 5 years previously, with roughly equal proportions having survived 5-9, 10-14 and 15-20 full years since diagnosis.

These summary figures on years survived and current age would be very different if survivors of childhood cancer diagnosed before 1994 could be included. Even allowing for substantially lower survival from childhood cancer earlier in the 20th century, some patients are likely to have survived many decades.

A breakdown of survivors by their first diagnosed cancer is given in Figure 10. The majority had been diagnosed with leukaemias (31%) or brain / central nervous system tumours (23%).

Figure 9. Breakdown by sex, age and years survived for childhood cancers survivors alive at 31/12/2014 (diagnosed 1994-2014)

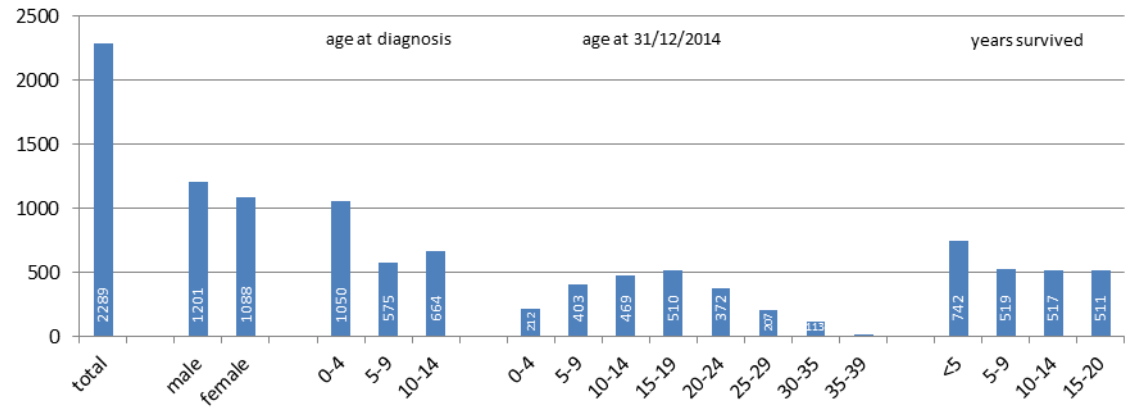
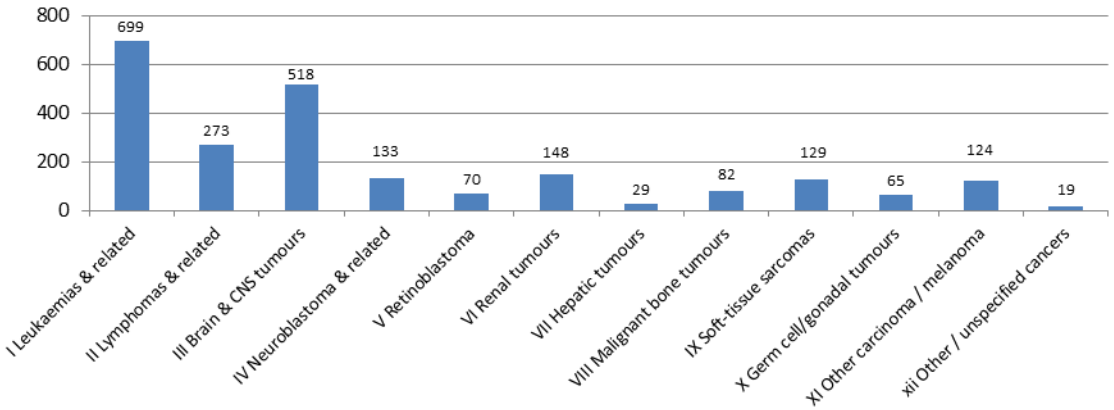


Figure 10. Breakdown by cancer type for childhood cancer survivors alive at 31/12/2014 (diagnosed 1994-2014)

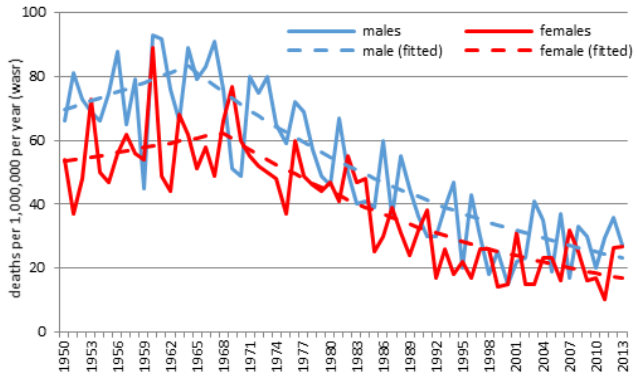


Long term trends in mortality rates

Based on data from 1950 onwards, mortality rates for childhood cancers in Ireland were at their highest in the 1960s, peaking at 93 deaths per million boys and 89 deaths per million girls in 1960. However mortality rates have since declined substantially (Figure 11). Compared with the peak in 1960, mortality rates in 2013 were about 70% lower in both girls and boys.

Joinpoint analysis (fitted trends in Figure 11) indicates an ongoing decline in mortality since the mid-to-late 1960s, by on average 2.6% per year for boys (since 1964) and 2.9% per year for girls (since 1968). This followed an earlier period of stability or non-significant increase.

Figure 11. Childhood cancer mortality rate (deaths per million per year, world age standardised) based on all deaths from cancer at ages 0-14 in Ireland 1950-2013.[5] Average annual percentage changes (APC) are shown



	Period	APC	CI
Male	1950-1964	1.29	(-1.18,3.81)
	1964-2013	-2.58	(-3.03,-2.12)
Female	1950-1968	0.87	(-1.02,2.79)
	1968-2013	-2.87	(-3.44,-2.30)

In the most recent years, averages of 10 girls and 14 boys have died from cancer each year, compared to over 50 children per year between the 1950s and 1970s (Table 5). The reduction in mortality largely reflects major improvements in diagnostic and treatment methods since the 1970s.

Throughout the period from the 1950s to the present, the number of cancer deaths among boys has been about 30-40% higher than among girls (Table 5).

Table 5. Annual average number of children who died from cancer from the 1950s to 2013[5]

	girls	boys	total
1950s	22	30	52
1960s	26	35	61
1970s	24	32	56
1980s	19	25	44
1990s	10	14	24
2000s	9	12	21
2010s	10	14	24

Deaths from leukaemia and lymphoma have dropped by 75% between the peak in the 1960s and the most recent decade (Table 6). The number of children dying from brain & CNS cancer has also fallen, though the reduction has been smaller.

The greatest reduction in absolute numbers of deaths has been observed for leukaemia, which accounted for almost half of all childhood cancer deaths in the 1950s and 1960s. On average, fewer than 10 children per year have died from leukaemia in recent decades.

Table 6. Annual average number of childhood deaths for the main cancers each decade from the 1950s to 2013[5]

	Leukaemia	Lymphoma	Brain & CNS
1950s	24	5	9
1960s	28	5	13
1970s	21	4	17
1980s	17	4	12
1990s	7	1	9
2000s	7	1	8
2010s	6	1	9

International variation in incidence and mortality

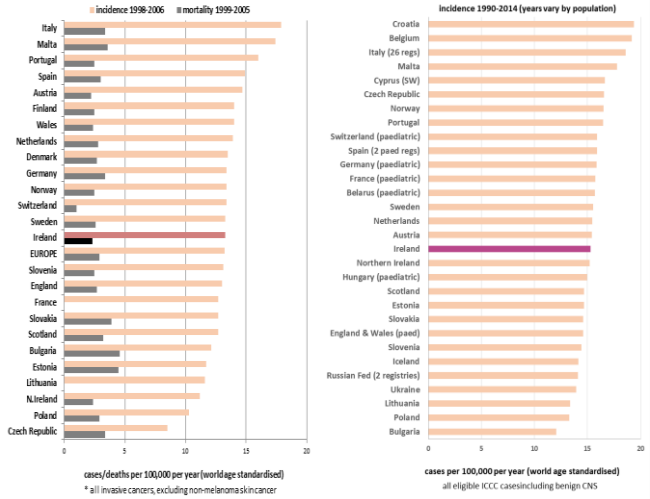
Estimates of childhood cancer incidence and mortality rates for European countries over comparable periods were extracted from the EUREG database[6], which provided data at individual population-based registry level for the period 1998-2006.[7] More recent incidence figures (but covering a wider period of years, varying by country) were extracted from the IARC/IACR International Incidence of Childhood Cancer website.[8]

Irish incidence rates for childhood cancer as a whole (excluding non-malignant tumours and non-melanoma skin cancer) ranked 13th of the 25 European countries examined for the period 1998-2006. [This is the same comparison as presented in the previous trends report on childhood cancer[1].] Incidence rates in Ireland were equal to Swedish rates and similar to those in Germany, Norway and Switzerland, and to the overall European average (Figure 12, left). Highest incidence rates were observed in Italy, Portugal and Malta. Lowest incidence rates were in the Czech Republic and Poland.

Based on the wider period covered by the IARC/IACR website (including Irish data for 1994-2012), Irish incidence rates of childhood cancer ranked 17th highest of the 30 populations presented in Figure 12 (right). This was similar to the ranking based on the EUREG database, although the IARC/IACR figures included all 'eligible' tumours covered by the International Classification of Childhood Tumours.

For the period 1999-2005, Ireland had one of the lowest mortality rates for childhood cancers of the European countries examined, with only Switzerland and Austria having lower rates. Mortality rates in Ireland were similar to those in Northern Ireland and Wales and were 21% lower than the European average.

Figure 12. Incidence and mortality rates (cases/deaths per 100,000 per year, world age standardised) for childhood cancer* in Europe: 1998-2006 (incidence) and 1999-2005 (mortality) (left)[6,7] or 1990-2014 (incidence) (right)[8]



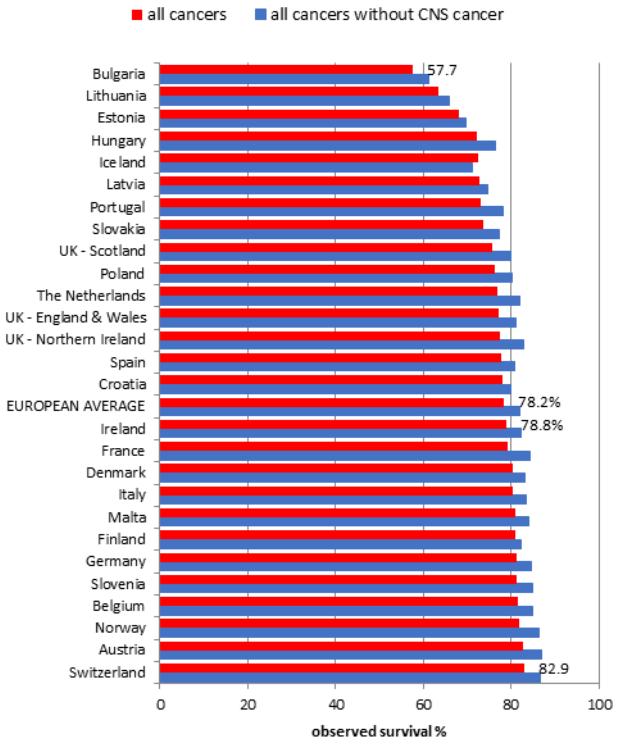
International variation in survival[9]

The most recent comparable data on childhood cancer survival across Europe have been published by the EUROCARE-5 project[9]. For all cancers combined, 5-year observed survival for Ireland was just under 79%, very close to the European average (Figure 13). Ireland ranked 12th highest of 27 countries included in the analysis (Figure 13). Highest survival was observed in children from Switzerland, Austria and Norway, while poorest survival was seen for children in some of the eastern European countries, particularly Bulgaria, Lithuania and Estonia.

In children, analyses generally include non-malignant tumours of the brain and central nervous system (CNS), but difficulties in differentiating between benign and malignant tumours can sometimes lead to variability in the coding of data between countries. For this reason, EUROCARE-5 also presented survival data where CNS tumours were excluded. Using these figures, Ireland ranked 13th highest of the 27 countries examined.

The data presented here has not been revised since the previous trends report[1]. Up-to-date comparative figures are in preparation by EUROCARE at the moment and will be presented in a future report.

Figure 13. Five year observed survival for all cancers combined, with and without CNS tumours, diagnosed in 2000-2007 by country in European children (aged 0-14 years)



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References and notes

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Further details of childhood cancer in Ireland:

Annual case numbers for each major cancer type in children aged 0-14 are listed in the *Appendix* overleaf

Appendix. Annual totals of childhood cancers (diagnosed at ages 0-14 years) in Ireland, 1994-2014, and average annual totals by seven-year period (1994-2000, 2001-2007, 2008-2014), by International Classification of Childhood Cancer (ICCC) diagnostic group[2]

Diagnostic group	1994	1995	1996	1997	1998	1999	2000	1994-2000 average
I-XII. All ICCC-classified cancers	119	137	104	106	130	104	116	**117**
I. Leukaemias, myeloproliferative diseases, & myelodysplastic syndromes	25	39	40	30	45	38	28	**35**
II. Lymphomas & reticuloendothelial neoplasms	12	13	11	12	19	12	15	**13**
III Central nervous system & miscellaneous intracranial/intraspinal neoplasms	39	41	26	30	31	21	27	**31**
IV. Neuroblastomas & other peripheral nervous system tumours	<5	7	<5	6	<5	7	6	**5**
V. Retinoblastoma	<5	<5	<5	<5	<5	<5	5	**2**
VI. Renal tumours	5	<5	<5	7	5	6	7	**5**
VII. Hepatic tumours	<5	<5	<5	<5	<5	<5	<5	**1**
VIII. Malignant bone tumours	6	8	6	5	6	<5	<5	**5**
IX. Soft tissue & other extraosseous sarcomas	8	7	5	5	5	9	11	**7**
X. Germ cell tumours, trophoblastic tumours, & neoplasms of gonads	5	5	<5	<5	<5	6	<5	**4**
XI. Other malignant epithelial neoplasms & malignant melanomas	10	9	<5	5	7	<5	9	**7**
XII. Other & unspecified malignant neoplasms	<5	<5	<5	<5	<5	<5	<5	**1**

Diagnostic group	2001	2002	2003	2004	2005	2006	2007	2001-2007 average
I-XII. All ICCC-classified cancers	152	126	132	147	120	119	131	**132**
I. Leukaemias, myeloproliferative diseases, & myelodysplastic syndromes	37	41	38	50	36	38	41	**40**
II. Lymphomas & reticuloendothelial neoplasms	20	12	17	16	12	8	9	**13**
III Central nervous system & miscellaneous intracranial/intraspinal neoplasms	29	33	30	36	26	32	34	**31**
IV. Neuroblastomas & other peripheral nervous system tumours	13	6	16	11	7	<5	13	**10**
V. Retinoblastoma	5	<5	<5	<5	5	<5	<5	**3**
VI. Renal tumours	12	7	6	8	6	6	6	**7**
VII. Hepatic tumours	<5	<5	<5	<5	<5	<5	<5	**2**
VIII. Malignant bone tumours	13	6	<5	6	8	5	<5	**6**
IX. Soft tissue & other extraosseous sarcomas	10	8	14	7	8	6	12	**9**
X. Germ cell tumours, trophoblastic tumours, & neoplasms of gonads	<5	<5	<5	5	5	7	<5	**4**
XI. Other malignant epithelial neoplasms & malignant melanomas	7	<5	<5	<5	6	6	5	**5**
XII. Other & unspecified malignant neoplasms	<5	<5	<5	<5	<5	<5	<5	**1**

Diagnostic group	2008	2009	2010	2011	2012	2013	2014	2008-2014 average
I-XII. All ICCC-classified cancers	139	159	160	151	169	176	185	**163**
I. Leukaemias, myeloproliferative diseases, & myelodysplastic syndromes	37	60	50	42	48	48	57	**49**
II. Lymphomas & reticuloendothelial neoplasms	14	13	15	7	19	18	22	**15**
III Central nervous system & miscellaneous intracranial/intraspinal neoplasms	40	39	38	43	42	44	56	**43**
IV. Neuroblastomas & other peripheral nervous system tumours	13	10	14	11	8	13	9	**11**
V. Retinoblastoma	6	5	<5	6	7	<5	<5	**5**
VI. Renal tumours	9	11	6	9	9	14	13	**10**
VII. Hepatic tumours	<5	<5	<5	<5	<5	<5	<5	**2**
VIII. Malignant bone tumours	<5	<5	6	7	7	6	6	**5**
IX. Soft tissue & other extraosseous sarcomas	<5	11	12	10	11	12	7	**10**
X. Germ cell tumours, trophoblastic tumours, & neoplasms of gonads	<5	<5	<5	5	<5	<5	<5	**3**
XI. Other malignant epithelial neoplasms & malignant melanomas	6	<5	11	7	9	11	7	**8**
XII. Other & unspecified malignant neoplasms	<5	<5	<5	<5	<5	<5	<5	**1**

*In line with current NCRI policy on disclosure of potentially sensitive data, case numbers in the range 0-4 are shown as "<5".