

A Summary of Childhood Cancer Survival in Australia, 1995-2004



More than 600 children aged 0-14 years old are diagnosed with cancer each year in Australia. Despite recent advances in therapy, cancer remains one of the leading causes of death within this age group.

Cancer Council Queensland, in collaboration with the Australian Paediatric Cancer Registry (APCR), has published a report, *Childhood cancer survival in Australia, 1995-2004*. Details on all cases of childhood cancer are collected by the APCR with the assistance of each State and Territory cancer registry and all major paediatric hospitals in Australia. The information held by the APCR, one of the few national registries of childhood cancer in the world, has enabled the calculation of population-based survival estimates, which are a key indicator for cancer control.

The report focuses on the survival of children who were diagnosed with cancer between 1995 and 2004, with follow-up to the end of 2006. Results were expressed in terms of relative survival¹, and presented by diagnostic group, sex, age at diagnosis, and tumour stage (where available). Changes in survival over time were also examined, along with international comparisons.

1. "Relative survival" is the survival of children with cancer compared to the survival of children of the same age in the general population.

Survival of children in Australia following a diagnosis of cancer

- Relative survival for all childhood cancers combined was 90.4% by the end of the first year after diagnosis compared to 79.5% after five years, then slowly decreased to 77.2% after 10 years.
- Significant variation was observed in survival according to diagnostic group, with five-year relative survival ranging from 68.4% for children with neuroblastoma up to 99.1% for those with retinoblastoma (Box 1).

Box 1: Five-year relative survival for all childhood cancers by diagnostic group, Australia, 1995-2004

Diagnostic group	Five-year relative survival (95% CI)*
I. Leukaemias	80.6 (78.7-82.3)
II. Lymphomas	89.6 (86.8-91.8)
III. Tumours of the central nervous system	70.8 (68.3-73.2)
IV. Neuroblastoma	68.4 (63.3-73.0)
V. Retinoblastoma	99.1 (95.4-100.0)
VI. Renal tumours	89.2 (85.2-92.2)
VII. Hepatic tumours	77.3 (67.1-84.7)
VIII. Malignant bone tumours	69.5 (63.2-75.0)
IX. Soft tissue sarcomas	70.6 (65.2-75.3)
X. Germ cell tumours	90.5 (86.0-93.7)
XI. Other malignant epithelial neoplasms & melanomas	93.0 (89.4-95.4)

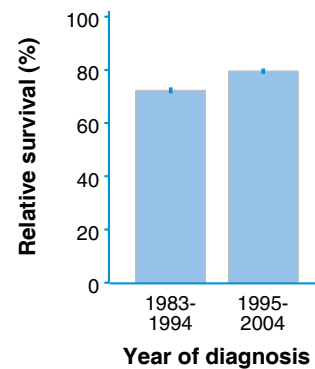
* 95% CI = 95% confidence interval.

What factors influence childhood cancer survival?

- Only minor differences were observed in survival between boys and girls for most types of childhood cancer. The exception was leukaemia, for which girls had a significantly higher rate of five-year relative survival compared to boys.
- Infants (aged less than one year old at diagnosis) tended to have poorer survival than other children with cancer. This was particularly evident for leukaemias and tumours of the central nervous system. However, the reverse was true for neuroblastoma and hepatic tumours, with a decrease in survival as age at diagnosis increased.

- Survival was consistently better for early stage cancers, and then decreased for more advanced cancers.
- Five-year relative survival for all childhood cancers combined improved from 72.3% for the years 1983-1994 to 79.5% between 1995 and 2004 (Box 2). Significant improvements in survival for children who were diagnosed more recently were recorded for leukaemias, lymphomas and neuroblastoma. Most of these gains in survival have come about as a direct result of improvements in treatment through international collaborative clinical trials.

Box 2: Five-year relative survival for all childhood cancers by year of diagnosis, Australia, 1983-2004



- Survival for childhood cancers was generally similar in Australia to corresponding estimates from other developed countries, such as the United States, Great Britain and France.

These results demonstrate that survival outcomes for Australian children diagnosed with cancer are in line with the best survival outcomes reported internationally. It is hoped that with further developments in treatment protocols through large multi-centre studies the improvements in survival will continue into the future.

The full report is available at

[www.cancerqld.org.au/page/Research_statistics/VCRCC/ Statistical_reports](http://www.cancerqld.org.au/page/Research_statistics/VCRCC/Statistical_reports)
or by contacting research@cancerqld.org.au.