



The influence of birth weight and congenital malformations on childhood lymphoid leukaemia survival in Great Britain, 1980-2007

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Background

- Little is known about co-morbid factors in children with cancer or their influence on survival
- They may contribute to variations in survival
- Predictors of co-morbid conditions in children may be:
 - extremes of birth weight
 - congenital malformations

Materials

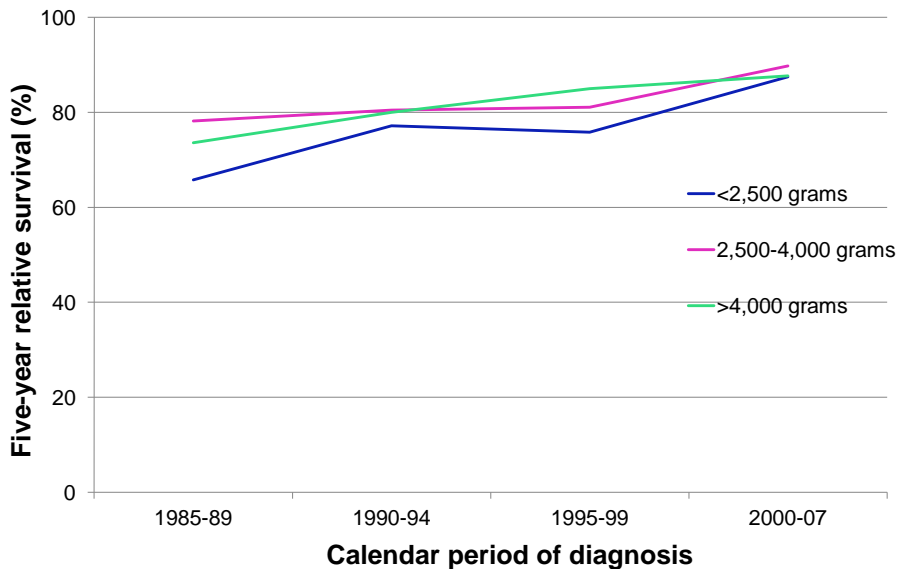
Cancer registrations for children diagnosed with leukaemia in Great Britain during 1980-2007 have been linked to:

- Birth records (birth weight data)
- Children's Cancer and Leukaemia Group records (congenital malformations data)
- Hospital Episode Statistics (co-morbid factors)
- MRC Clinical Trials data

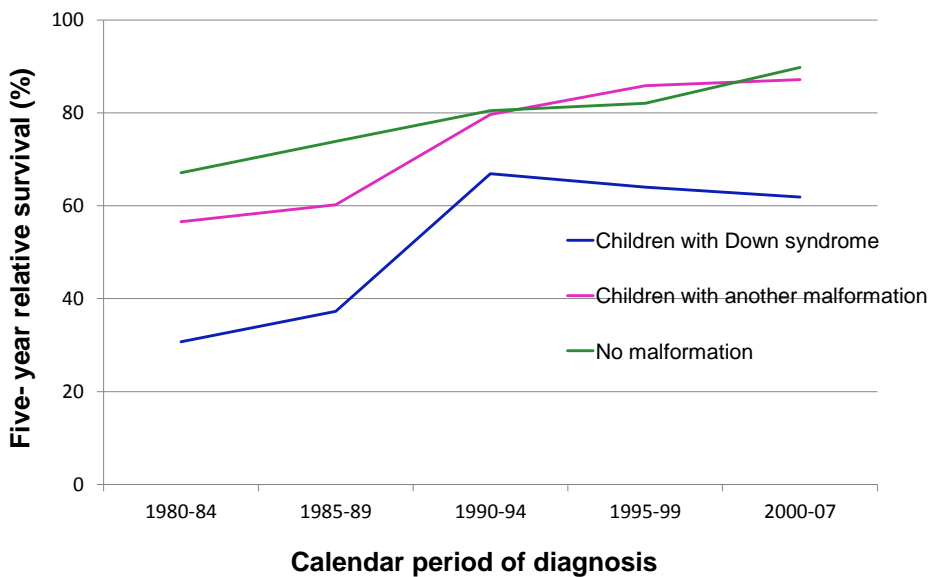
Methods

- Classification of congenital malformations
- Data cleaning and quality assurance
- Trends in survival by prognostic factors
- Multivariable modelling of survival

Trends in 5-year survival by birth weight for children with lymphoid leukaemia, Great Britain 1985-2007



Trends in 5-year survival by congenital malformation for children with lymphoid leukaemia, Great Britain 1980-2007



Multivariable analysis – prognostic factors

- Age at diagnosis
- White blood cell count at diagnosis
- Period of diagnosis
- Down syndrome
- Sex
- Ethnicity
- Immunophenotype
- Clinical trial participation

Multivariable analysis – not significant

- Birth weight
- Socio-economic status

Conclusions

- Birth weight and other congenital malformations are not co-morbid factors for childhood lymphoid leukaemia
- The presence of Down syndrome is a strong, independent co-morbid factor for childhood lymphoid leukaemia
- Survival for children with Down syndrome and lymphoid leukaemia has not improved since the 1990s
- Important prognostic factors are –
 - Age at diagnosis
 - Period of diagnosis
 - White blood cell count at diagnosis

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- UK Association of Cancer Registries
- Clinical Trials Service Unit
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