

CZECH CHILDHOOD CANCER INFORMATION SYSTEM

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Background and Aims: A reliable interactive tool describing cancer epidemiology in children and adolescents has been non-existent in the Czech Republic. The goal of this study was to develop a new web portal entitled the Czech Childhood Cancer Information System, which would provide information on childhood cancer epidemiology in the Czech Republic.

Methods Data on childhood cancers, which are recorded in the Czech National Cancer Registry, were validated using the clinical database of childhood cancer patients and combined with data from death certificates. These validated data were used to determine incidence and survival rates of childhood cancer patients aged 0–19 years who were diagnosed in the period 1994–2016 (N = 9,435). Data from death certificates were used to monitor long-term mortality trends.

Results: The web portal is available for anyone at <https://ccc-is.uzis.cz/index-en.php>, providing basic information for experts (i.e. analyses and publications) on individual diagnostic groups of childhood cancers. It involves an interactive tool for analytical reporting, which provides information on the following basic topics in the form of graphs or tables: incidence, mortality and overall survival.

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Czech Childhood Cancer Information System

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Introduction

Childhood cancer is classified among rare diseases as their incidence rates are orders of magnitude lower than in adults. Although paediatric cancers are rare, they are the second leading cause of death among children (after injuries). About 400 new cases of childhood cancer are diagnosed in the Czech Republic each year. In the Czech Republic, treatment of childhood cancer patients is concentrated in two specialised centres:

- Department of Paediatric Haematology and Oncology at the University Hospital in Motol (Prague)
- Department of Paediatric Oncology at the University Hospital Brno

Hospitals in Ostrava, Olomouc, Plzen, Hradec Kralove, Ceske Budejovice, and Usti nad Labem cooperate with the above-mentioned specialised centres. In accordance with the Council Recommendation of 8 June 2009 on an action in the field of rare diseases (2009/C 151/02), the centres of University Hospital in Motol and University Hospital Brno have established and maintained a database of diagnosed and treated childhood cancer patients.

Based on available data sources, **this portal aims to** improve the healthcare professionals' awareness of childhood cancers and to promote their education in this area. The target groups involve paediatricians, non-specialised

Incidence By year By sex By age By cancer type By age and cancer type International comparison

Cancer type: All ICCC diagnoses Sex: Both Age: 0-19 1994-2016 Reset filters Guided tour

Analysis settings

Group years?

Computational method: Percentage

Comparison with foreign countries: select countries

Type of view: Graph Table Report

Export graph Save as image

Applied filters (N = 9435)

Cancer type: All ICCC diagnoses
Sex: Both; Age: 0-19; Range: 1994-2016

Cancer type	Percentage
ICCC I	23.2 %
ICCC II	16.8 %
ICCC III	18.0 %
ICCC IV	12.2 %
ICCC V	6.6 %
ICCC VI	6.2 %
ICCC VII	5.1 %
ICCC VIII	5.5 %
ICCC IX	5.1 %
ICCC X	5.1 %
ICCC XI	5.1 %
ICCC XII	5.1 %

Selecting the main module and choosing the required analysis

Patient group selection: Diagnosis, Gender, Age....

Detailed analysis settings:

- Merge years: shows individual years or the whole (activation)
- Choice of calculation methods: Absolute numbers, Annual numbers, Percentage, ...
- Different types of outputs: graph, table, report

Basic window for displaying analysis results

Overview of filters used for analysis

Conclusions: The software is capable of processing data from multiple sources, is freely available to all users and makes it possible to carry out automated analyses even for users without mathematical background: a simple selection of a topic to be analysed is required from the user. This on-line available software tool makes it therefore possible for anyone to display long-term trends of childhood cancer incidence, mortality and survival, and to compare data from the Czech Republic to those from abroad.