



Ensuring quality and use of data from cancer registries in the 21st century

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SURVEILLANCE OF CHILDHOOD CANCERS IN INDUSTRIALLY CONTAMINATED SITES IN EUROPE

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Background Children's health represents a public health priority. Globally, 17% (7–42%) of all cancer disease burden in children under five has been attributed to environmental causes. Between the 1980s and 2000s incidence of childhood cancer in age 0–14 years has increased by 13% worldwide, and the increase concerns also Europe. Yet the aetiology of most childhood cancers is still unknown. A principal source of pollution in European contaminated sites is represented by industrial activities.

Methods The Italian Institute of Health (ISS) and the Italian Association of Cancer Registries (AIRTUM) analysed the cancer profile in children and young adults in 23 national priority contaminated sites (NPCSs). NPCSs are mainly located close to industrial areas, either active or dismissed, near incinerators or dumping sites of industrial or hazardous waste.

Results 685 malignant tumours (MT) were recorded among 3,440,240 children aged 0–19 years living in 23 NPCSs from 1996 to 2005. In 15 NPCSs in Centre-Northern Italy, covering 1,754,585 person-years, excess risk of MT was found in the age 0–1 year (37 cases, SIR=1.47, CI90% 1.10–1.93) and of leukaemia in the age 5–9 years (31 cases, SIR=1.45, 1.05–1.95). 393 cases of MT aged 0–19 years, living in 30 Italian NPCS, were recorded in the period 2006–2013. In the age 0–14 years, these numbers translated in incidence rate of 172 per million.

Conclusion Contaminated areas may increase risk of cancer in children residing in their proximity. To protect child health, these health hazards must be quantified. In a novel project proposal we will aim to evaluate systematically the cancer profile in children living in industrially contaminated sites in Europe. The project will build on the networking activities of the COST Action "Industrially Contaminated Sites and Health Network" (<http://www.icshnet.eu>), and childhood cancer studies coordinated at the International Agency for research on Cancer (IARC).