

What are late effects of Childhood Cancer?

The number of survivors of childhood cancer in Europe has steadily increased as therapies and supportive care have improved in recent years. **Survival rates after childhood cancer now reach and exceed 80% in most European countries.** However, childhood cancer treatments are harsh and frequently cause serious late effects that can greatly reduce the long-term quality of life of survivors, including poor quality of life, inner ear problems¹ (ototoxicity), reduced fertility and depression. It is estimated that as many as 80% of survivors have experienced at least one serious late effect by their middle years. As the number of survivors increases, their care needs will place an additional burden on health care systems.

Research is needed to prevent or alleviate the impact of late effects by developing models that match individual patients with effective treatments with fewer late effects, and by providing adequate counselling and education over the longer term to survivors and their families about how they can minimise the occurrence and impact of late effects.

¹ Inner ear problems (ototoxicity) include temporary or permanent inner ear dysfunction with symptoms of cochlear damage (i.e. hearing loss and tinnitus) or symptoms of injury to the vestibular apparatus (e.g. dizziness and vertigo).

How will PanCareLIFE help cancer survivors?

The goal of PanCareLIFE is that survivors of cancer diagnosed before age 25 should enjoy the same quality of life and opportunities as their peers who have not had cancer. Drugs and radiotherapy currently used to treat cancer are toxic to healthy tissues. We know little about whether or how a person's genetic background can affect toxicity.

In order to prevent or reduce the impact of late effects on cancer survivors we will study:



Fertility



Inner Ear Problems



Quality of Life



How will PanCareLIFE advance cancer research?



PanCareLIFE will:

- Identify both genetic and non-genetic risk factors for late effects so researchers and clinicians can promote cancer therapies with fewer late effects, tailored to particular risk profiles
- Support pan-European knowledge-sharing and encourage the translation of research results to the clinic, bring together cohorts of childhood cancer survivors from across Europe to enable rigorous analysis and statistics
- Integrate therapy and long-term follow-up to improve health care, develop a harmonized approach to integrated data management so that the value of data is maximized

