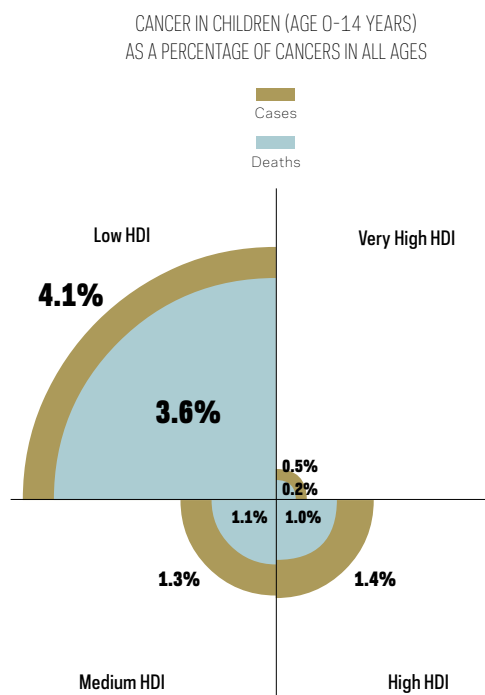


CANCER IN CHILDREN

Survival among children with cancer is improving, but children in low-income countries continue to have worse outcomes than those in high-income countries.

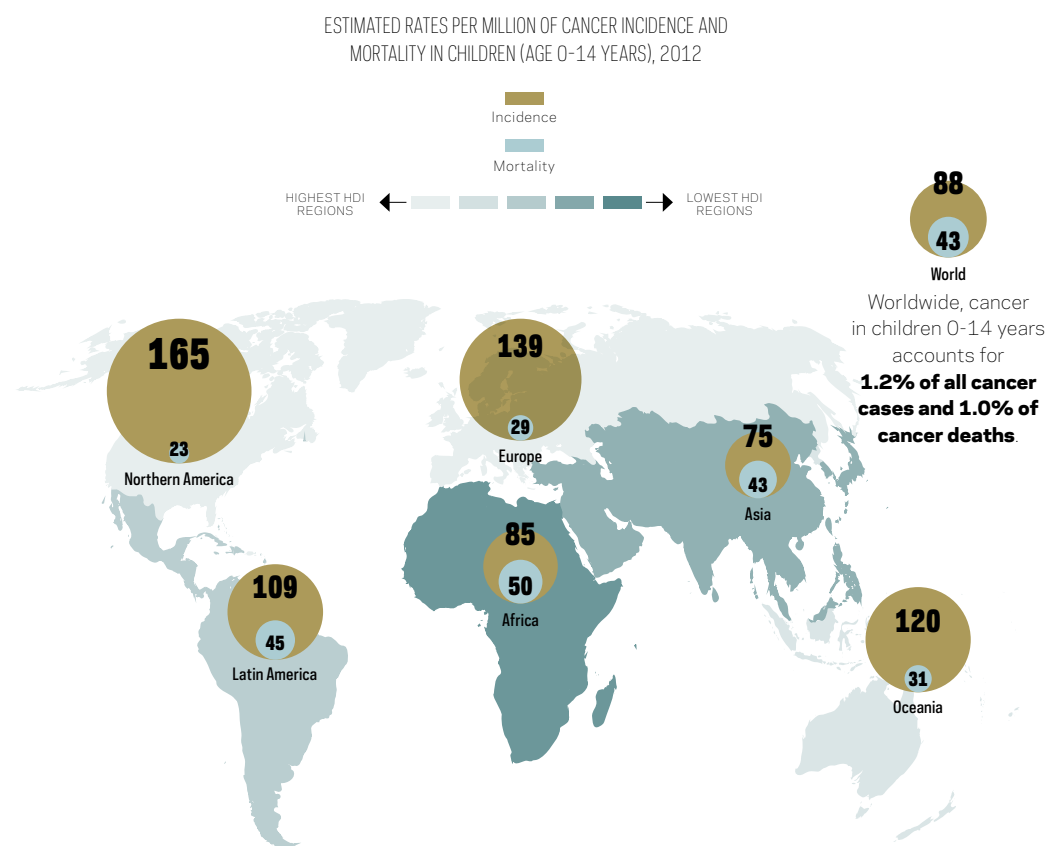
① **The proportion of childhood cancers relative to all cancers is highest in low-Human Development Index (HDI) countries with young populations.**



① ② Childhood cancers account for less than 1% of the total cases in high-income countries but about 4% in low-income countries. The types of cancers that occur in children differ from those of adults and mainly comprise neoplasms of the blood and lymphatic system (leukemia or lymphoma), embryonal tumors (e.g. retinoblastoma, neuroblastoma, nephroblastoma) and tumors of brain, bones, and connective tissues, with international variations. Overall estimated annual incidence rates vary between 50 and 200 per million in children under 15 years of age, and between 90 and 300 per million in adolescents aged 15-19. Reliable data on incidence are available for a fifth of the world population, mostly in high-income countries.

Established causes of childhood cancers include ionizing radiation, genetic constitution and viruses, while suspected risk factors include birth characteristics and exposure to certain pollutants.

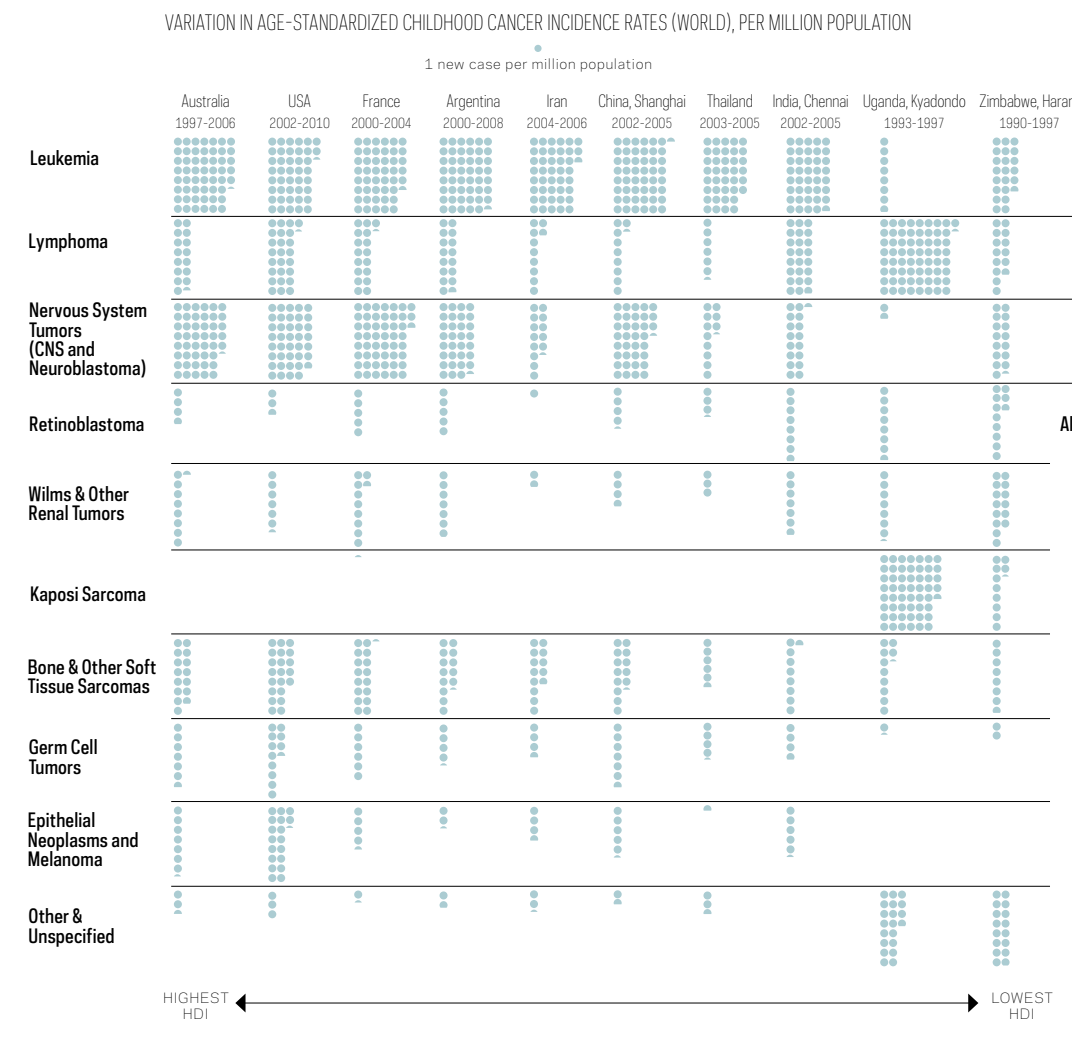
④ **The ratio of childhood cancer incidence to mortality is lower in low-HDI countries.**



③ While fifty years ago only about 30% of childhood cancer patients survived five years following diagnosis, the current proportion is now 80% in high-income countries but remain low in low- and middle-income countries (e.g. 40% in India). ④ Survival data for low-income countries are sparse, but the annual estimated number of deaths exceeds half of new cases in Africa, Asia and Latin America. National investments and international collaboration could improve these outcomes.

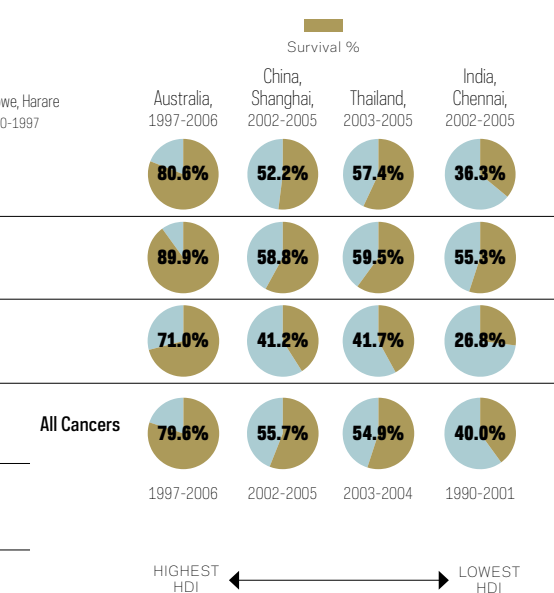
As survival improves, the population of long-term survivors grows. In 2012 in the USA alone, there were 80,000 survivors diagnosed with cancer before the age of 20 years. About 60% of survivors suffer at least one chronic condition, and the risk of late effects increases with length of follow-up. New therapies should overcome the recent slowdown in survival improvement and reduce the late effects of treatment.

② **Cancers in children are mostly neoplasms of the blood and lymphatic system (leukemia or lymphoma), embryonal tumors (e.g. retinoblastoma, neuroblastoma, nephroblastoma) and tumors of brain, bones, and connective tissues.**



③ **Survival from childhood cancer varies internationally.**

FIVE-YEAR SURVIVAL IN CHILDREN FOR SELECT CANCERS DIAGNOSED IN SELECT COUNTRIES



Over half of children with cancer have **leukemia, lymphoma, or brain tumors.**

“

There are no great discoveries and advances, as long as there is an unhappy child on earth.”

— Albert Einstein

⑤ **In the USA, childhood cancer survival has significantly improved over the past 30 years, although racial disparities remain.**

