

Newsletter, February 2021
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Drug Utilization & Pharmacy Practice

OncoCare

Childhood Cancer

Pediatric Patient (≤ 21 years of age)

Neonate (Newborn)	Infant	Young Child	Child	Adolescent
0-28 Days	29 Days-2 Years	2-6 Years	6-12 Years	12-21 Years

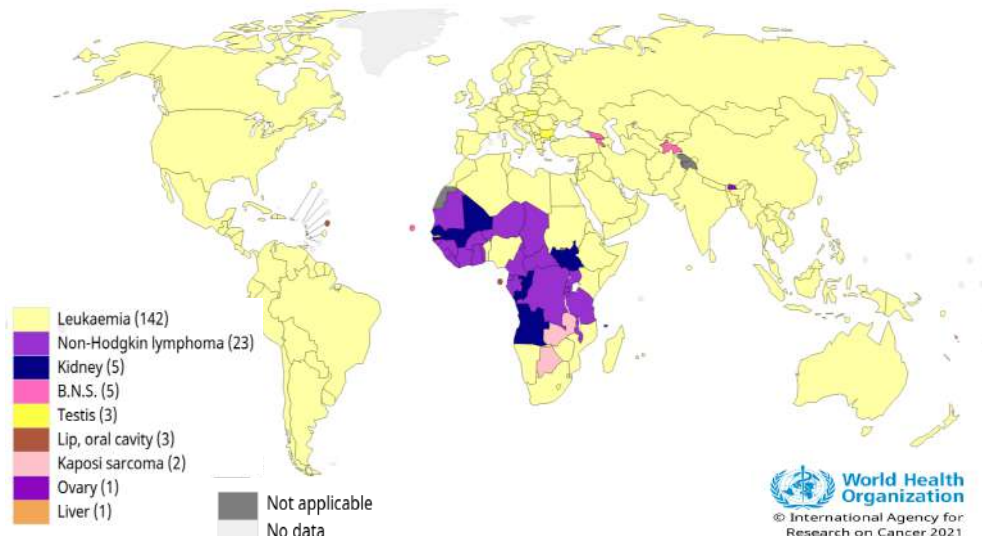
Unlike adult cancers, childhood cancers are not closely linked to lifestyle choices or environmental exposure, nor are there screening mechanisms to enable early detection.

Often, childhood cancer is not detected or diagnosed until it begins causing noticeable symptoms.

The causes of most childhood cancers are not known.

About 5% of all cancers in children are caused by an inherited mutation (a genetic mutation that can be passed from parents to their children).

Top cancer per country, estimated age-standardized incidence rates (World) in 2020, both sexes, ages 0-19



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February 15th

International

Childhood



Cancer Day⁽⁷⁾

International Childhood Cancer Day is a global collaborative campaign to raise awareness about childhood cancer, and to express support for children and adolescents with cancer, the survivors and their families.

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Early and accurate diagnosis is a primary goal in childhood cancer management. It leads to increased survival, improved prognosis and minimal side effects or late effects of treatment.

THE GOAL OF THE GLOBAL INITIATIVE IS TO ACHIEVE AT LEAST A



AND TO REDUCE SUFFERING FOR ALL CHILDREN WITH CANCER BY 2030.

Overall survival rates vary depending on cancer type, cancer stage, patient age, and other patient characteristics.

With these improved outcomes, the focus of research and expectations of patients, parents, and health care providers has increasingly emphasized reducing the burden of cancer and its treatment for these children during treatment, after the completion of treatment, and as adult survivors.

Why the Gold Ribbon?

Gold is a precious metal. Children are our most precious treasure. It is also a perfect symbol for the childhood cancer journey.

Gold goes through a process by fire, to become stronger and tougher. Kids with childhood cancer similarly undergo such an experience. They often develop resiliency by facing all the difficult and painful challenges of childhood cancer.



**'Better Survival' is achievable
#throughourhands**

Speak out for kids with cancer using #ICCD2021 #throughourhands #cureall

The World Health Organization (WHO) Global Initiative for Childhood Cancer aims to improve outcomes for children with cancer around the world. The goal is to give all children with cancer the best chance to survive, to live full and abundant lives and to live and die without suffering. Working across borders, sectors and disciplines, we can create a better future for children with cancer⁽¹²⁾.

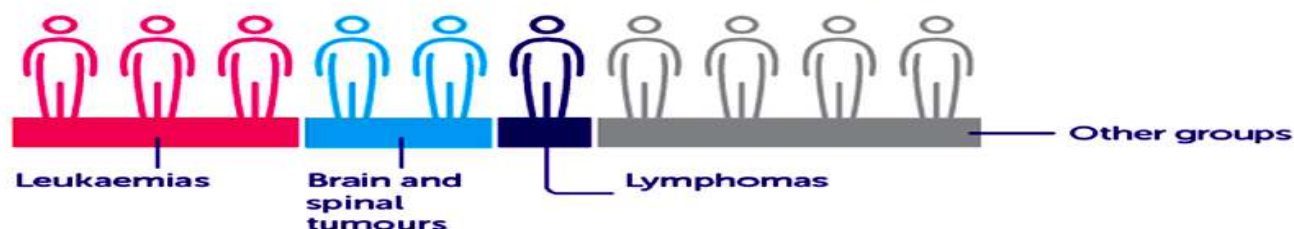
Childhood Cancer

Most Common Types of Childhood Cancer⁽¹⁴⁾

Leukemia	<ul style="list-style-type: none"> * Cancers of the bone marrow and blood. * The two most common types are <i>acute lymphocytic leukemia (ALL)</i> & <i>acute myelogenous leukemia (AML)</i>, both of which can grow quickly & require immediate treatment. 	* Constitute about 30% of all childhood cancers
Brain & central nervous system tumors	<ul style="list-style-type: none"> * There are a variety of different types of brain tumors, classified by where the tumor started, such as <i>gliomas</i>, <i>astrocytomas</i>, and <i>primitive neuroectodermal tumors</i>. * Treatment and prognosis depends heavily on the exact type & location of the tumor. 	* Brain tumors (and less commonly spinal cord tumors) represent (26%) of all childhood cancers.
Lymphoma	<ul style="list-style-type: none"> * Begins in the immune system, & is likely to be found in the lymph nodes, tonsils, thymus, or spleen. * Lymphoma is generally a rapidly-growing form of cancer and requires immediate treatment. 	<ul style="list-style-type: none"> * Hodgkin's lymphoma: around 3% of childhood cancers & is most common in young adults. * Non-Hodgkin's lymphoma around 5% of childhood cancers and occurs in younger children (Rare in children under 3).
Neuroblastoma	<ul style="list-style-type: none"> * Found primarily in infants & very young children. * Although neuroblastoma can start anywhere, it is most commonly found in the abdomen. 	* Constitute about 6% of childhood cancers.
Wilms tumor	<ul style="list-style-type: none"> * Starts in one kidney (it can occur in both kidneys, but this is rare). * It is most common in children between the ages of 3-4, & uncommon in children older than 6. 	* About 5% of childhood cancers
Rhabdomyosarcoma	<ul style="list-style-type: none"> * The most commonly occurring soft tissue sarcoma in children. * Grows in cells that develop into skeletal muscles & can be found anywhere in the body. 	* Approximately 3% of childhood cancers.
Bone cancers	<ul style="list-style-type: none"> * Primary bone cancers start in the bones, & are distinguished from <i>metastatic bone cancer</i>, which is a cancer that has started elsewhere but spread into the bone. * The most common types in children are <i>osteosarcoma</i> and <i>Ewing sarcoma</i>. 	* Primary bone cancers make up about 3% of childhood cancer
Retinoblastoma	<ul style="list-style-type: none"> * Starts in the eye & is most common in children under the age of two (it is rarely found in children older than 6). 	* It constitutes about 2% of childhood cancers

Most common children's cancers

The 76 types of children's cancer can be put into 12 groups, and some groups are more common than others. The most common groups in the UK are:



Together we will beat cancer



Cancer treatment for children differs in many ways from treatment for adults. Some of the principal differences include the following:

- ***Intensity.***

In general, treatment of childhood cancer is more intense. Because the dose-limiting toxicities of most chemotherapy and radiation treatments are generally reached at higher doses, more-intensive chemotherapy and radiation therapy are feasible for children than would be possible for adults.

- ***Toxicity.***

Some of the toxicities of treatment have a much more significant and lasting effect on children than on adults because of the active development of nearly all organ systems during childhood and adolescence.

- ***Supportive Care.***

Developmental differences extend to the types of supportive care that children may receive. Medications that represent standards of care for adult cancer supportive care may be contraindicated for children because of adverse toxicities that are associated with specific periods of childhood development.

Treatment and supportive care require different approaches across the spectrum from newborn through young adult age groups, and the outcomes of both cancer survivorship (control of disease) and quality of survivorship (impact of toxicities) differ with the age of a child at the time of treatment.



Photo credit: American Childhood Cancer Organization

Nutrition is an important part of the health of all children. It's especially important for children getting cancer treatment to get the nutrients they need. Eating the right kinds of foods before, during, and after treatment can help a child feel better and stay stronger.

Children need the following nutrients for their bodies to grow, develop and work normally.

* **Protein:**

Found in meats, poultry, fish, eggs, milk, cheese, yogurt, dried beans and peas, lentils and nuts. The body needs protein to grow and develop muscles. Protein also helps build a healthy immune system.

* **Carbohydrates:**

Found in foods like grains, vegetables and fruit. Carbohydrates give the body energy. The body needs energy to keep it active and working properly. Getting enough energy helps the body grow, heal and stay at a healthy weight.

* **Fat:**

Is in foods like oils, butter, margarine, meats, poultry, fish, eggs, milk, cheese and nuts. It gives the body energy. Fat is also very important for body growth and development, including the brain's development.

* **Vitamins and minerals:**

Found in a variety of foods. The body needs them to grow, develop and work properly. For example, vitamin D and calcium form bones and teeth and keep them strong. Children who eat a variety of foods usually get enough vitamins and minerals.

* **Water:**

A very important part of health and good nutrition. Drinking water and other fluids keeps the body working normally.

Cancer Prevention During Early Life⁽⁹⁾

CDC's Division of Cancer Prevention and Control sponsored a [special issue in the journal *Pediatrics*](#) external icon about factors from before birth through early childhood that may affect a person's chance of getting cancer.

Encouraging Behaviors That May Lower Cancer Risk

Getting enough [folic acid](#) during pregnancy.

[Breastfeeding.](#)

Getting enough [physical activity](#) during childhood.

Ensuring [safe, stable, nurturing relationships and environments](#) for all children and families.

Reducing Harmful Exposures

Avoiding [alcohol](#) and [tobacco use](#) during pregnancy.

Keeping children away from [secondhand smoke.](#)

- Reducing exposure to traffic-related air pollution.

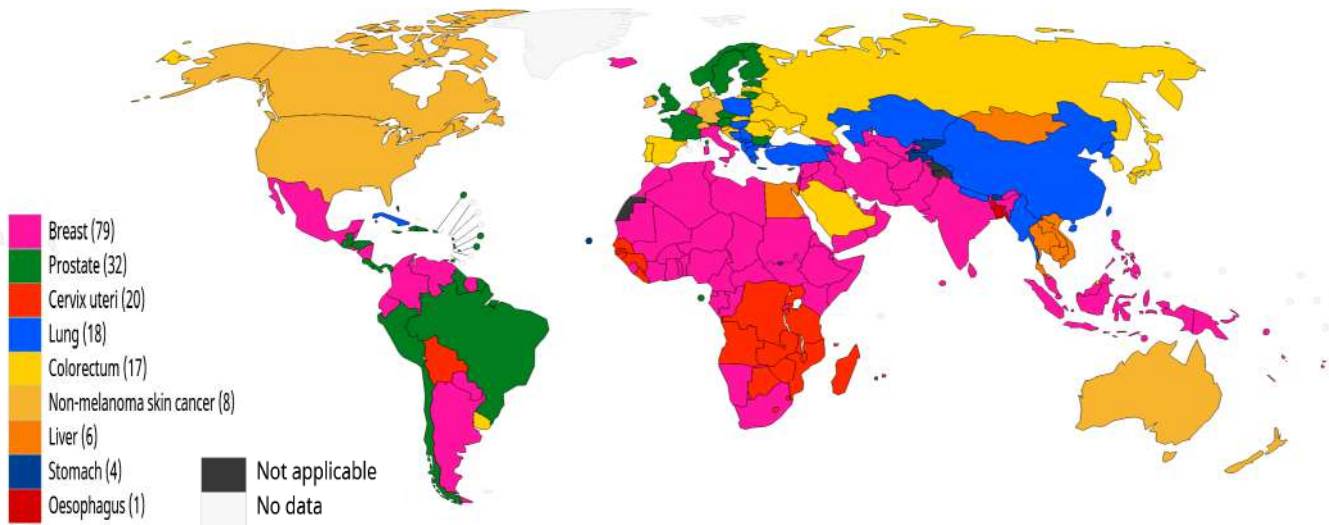
Avoiding exposure to [chemicals](#) that can cause cancer.

Limiting the amount of radiation used during certain [medical tests](#), like CT (computed tomography) scans.

Learning about your family's history of exposure to [diethylstilbestrol](#) (DES).

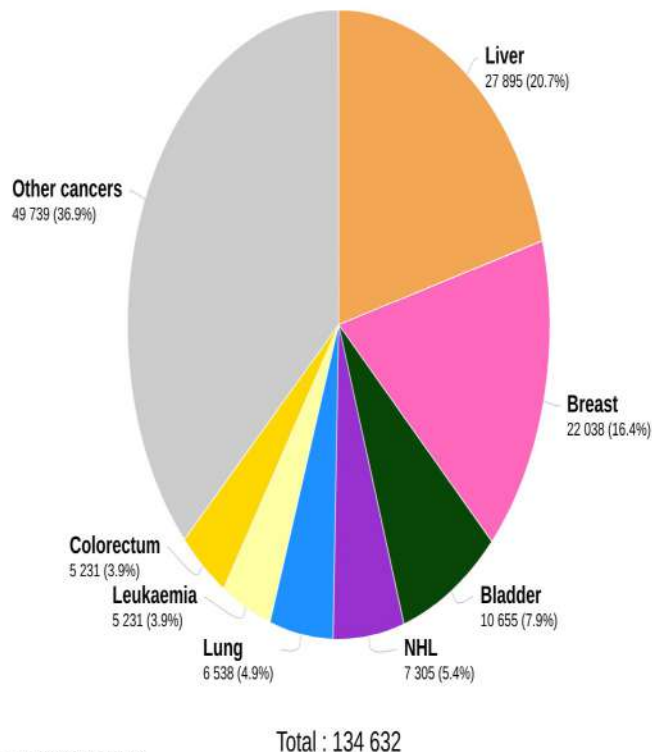
Preventing [adverse childhood experiences.](#)

Top cancer per country, estimated number of new cases in 2020, both sexes, all ages



The chance for a cure, the chance to live, should no longer remain an accident of geography.

Estimated number of new cases in 2020, Egypt, both sexes, all ages



Data source: Globocan 2020
 Graph production: Global Cancer Observatory (<http://gco.iarc.fr>)

**The chance for a
cure, the chance to
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- (1) <https://acsjournals.onlinelibrary.wiley.com/doi/epdf/10.3322/>
- (2) <https://training.seer.cancer.gov/disease/cancer/#:~:text=According%20ACS%2C%20cancer,it%20can%20result%20in%20death.>
- (3) <https://www.cancer.gov/about-cancer/treatment/side-effects>
- (4) <https://www.worldcancerday.org/>
- (5) <https://www.aicr.org/cancer-prevention/>
- (6) <https://canceratlas.cancer.org/>
- (7) <https://internationalchildhoodcancerday.org/>
- (8) <https://canceratlas.cancer.org/the-burden/cancer-in-children/>
- (9) <https://www.cdc.gov/cancer/dcpc/prevention/childhood.htm>
- (10) <https://www.cancer.gov/types/aya>
- (11) <https://www.cancer.org/cancer/cancer-in-children.html>
- (12) https://www.who.int/docs/default-source/documents/health-topics/cancer/who-childhood-cancer-overview-booklet.pdf?sfvrsn=83cf4552_1
- (13) <https://www.fda.gov/medical-devices/products-and-medical-procedures/pediatric-medical-devices#:~:text=The%20Federal%20Food%2C%20Drug%2C%20and,to%20less%20than%202%20years>
- (14) <https://www.cclg.org.uk/Childhood-cancer-in-numbers>
- (15) <https://www.cancer.ca/en/cancer-information/cancer-type/childhood-cancer-information/nutrition-for-children-with-cancer/?region=on>
- (16)

<https://www.worldcancerday.org/>

<https://gco.iarc.fr/today/online-analysis-pie?>

[v=2020&mode=cancer&mode_population=continents&population=900&populations=900&key=total&sex=0&cancer=39&type=0&statistic=5&prevalence=0&population_group=0&ages_group%5B%5D=0&ages_group%5B%5D=0](https://gco.iarc.fr/today/online-analysis-pie?v=2020&mode=cancer&mode_population=continents&population=900&populations=900&key=total&sex=0&cancer=39&type=0&statistic=5&prevalence=0&population_group=0&ages_group%5B%5D=0&ages_group%5B%5D=0)