

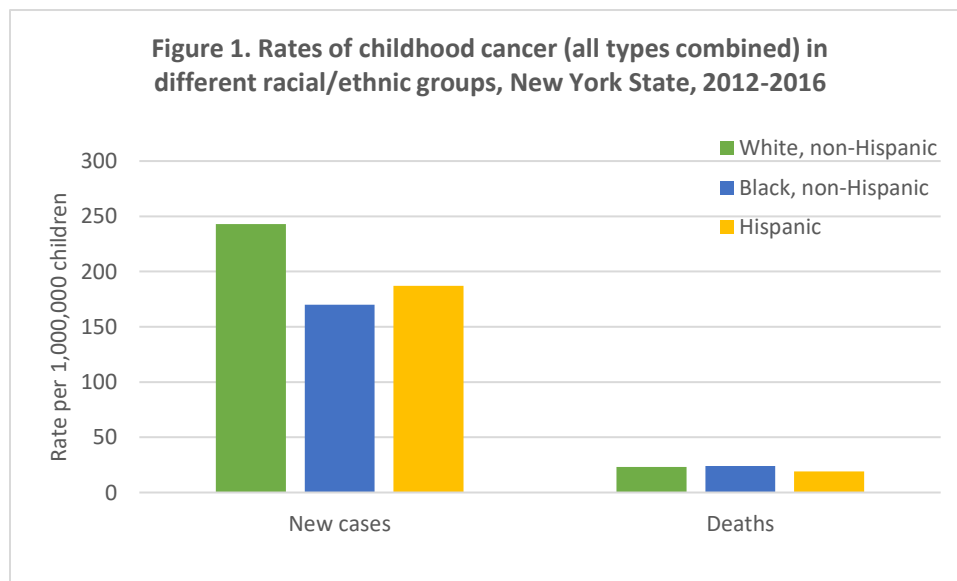
Are there disparities in childhood cancer?

Cancer occurs in children of all racial and ethnic groups. Although non-Hispanic white children are more likely to be diagnosed with cancer, children of other racial/ethnic groups are less likely to survive once diagnosed.

There are different ways to measure cancer in a group of people or in a community. Because groups or places with more people would be expected to have more people with cancer, researchers calculate cancer rates. Cancer rates show how many people in a group or a place would develop or die from cancer if there were a set number of people in it (usually 1 million for childhood cancers). Cancer rates estimate a person's risk of developing or dying from cancer. The cancer **incidence** rate is the number of people in a group or community who were **newly diagnosed** with cancer, divided by the total number of people in the group or community. The cancer **mortality** rate is the number of people in a group or community who **died** from cancer, divided by the total number of people in the group or community.

Total cancers

Cancer occurs in children of all racial and ethnic groups. Figure 1 shows incidence and mortality rates for all types of cancer combined in the three largest racial/ethnic groups in New York State.



Average annual incidence and mortality rates by racial/ethnic group, children ages 0-19, New York State, 2012-2016
Source of data: New York State Cancer Registry. Data provisional November 2018.

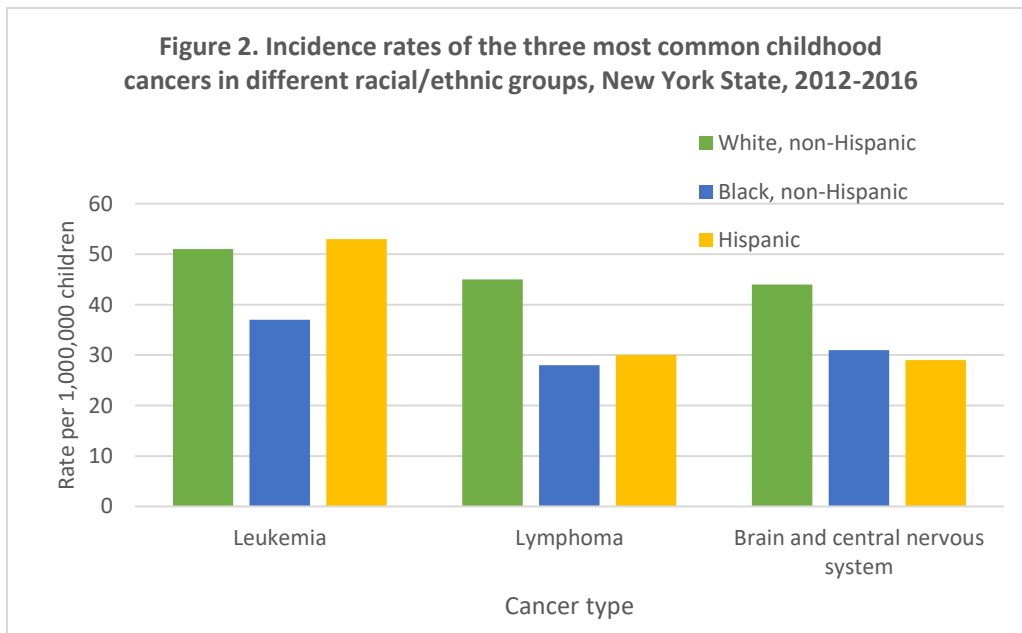
- Most children diagnosed with cancer survive the disease, and the cancer incidence rate is much greater than the rate of dying from cancer for children of all racial/ethnic groups.
- The incidence rate for all types of cancer combined is greatest in non-Hispanic whites. Non-Hispanic black children and Hispanic children are about 30% less likely to be diagnosed with cancer than non-Hispanic white children.

- Mortality rates for the three racial/ethnic groups are similar. This means that although a non-Hispanic black child or a Hispanic child is less likely to be diagnosed with cancer than a non-Hispanic white child, those who are diagnosed are less likely to survive.

By type

Cancer is not a single disease, but a collection of many different diseases. Each different type of cancer has its own occurrence pattern, outlook, effective treatments, and risk factors.

Children can develop many different types of cancer. Leukemia, lymphomas (including Hodgkin lymphoma and the non-Hodgkin lymphomas) and tumors of the brain and central nervous system are the cancers that children develop most often. Figure 2 shows incidence rates of these three types of childhood cancer for the three largest racial/ethnic groups in New York State.



Average annual incidence rates by racial/ethnic group, children ages 0-19, New York State, 2012-2016

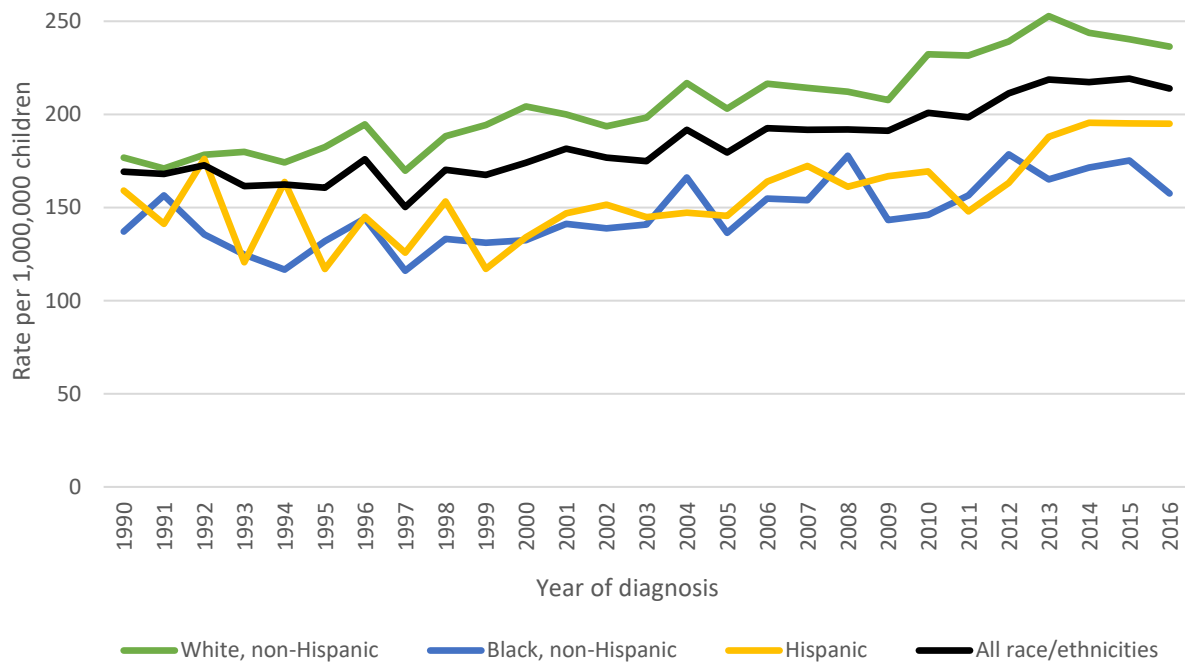
Source of data: New York State Cancer Registry. Data provisional November 2018.

- The incidence rate for leukemia is about the same for non-Hispanic white and Hispanic children.
- As with total cancers, the incidence rates for lymphoma and for brain and central nervous system cancers are greatest for non-Hispanic whites.
- The incidence rates for lymphoma and for brain and central nervous system cancers are about the same for non-Hispanic black and Hispanic children.
- Mortality rates for the three cancer types are similar for children of the different racial/ethnic groups (not shown).

Time trends

Figure 3 shows the trend in incidence rates for childhood cancers (all types combined) in New York State between 1990 and 2016. The trend is shown for all children, and for the three largest racial/ethnic groups.

Figure 3. Time trend in childhood cancer incidence rates, all types combined, by racial/ethnic group, New York State, 1990-2016

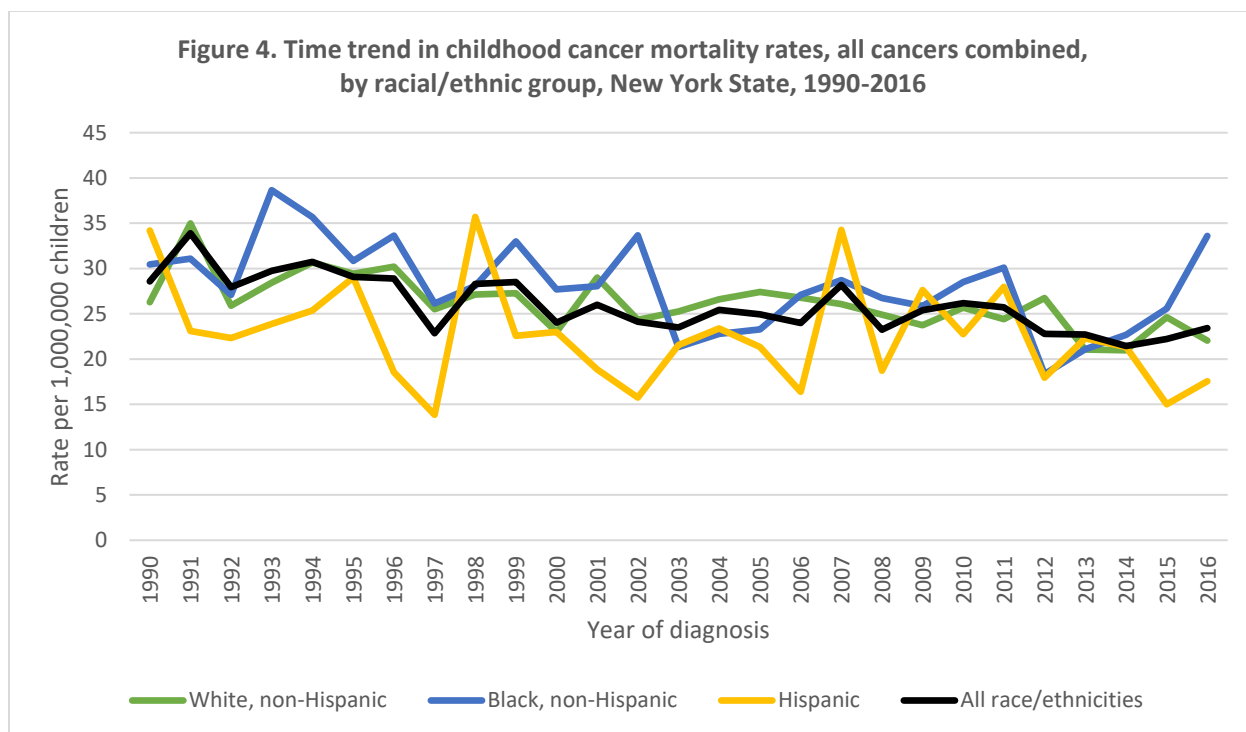


Children ages 0-19 years. Source of data: New York State Cancer Registry. Data provisional, November 2018.

¹Rates age-adjusted to the 2000 US population standard.

- For all children (black line), childhood cancer incidence rates showed a steady increase over this time period. This increase amounted to an average of 1.2 percent per year, or just over a 25 percent increase over 27 years.
- The increase was seen in all three racial/ethnic groups.

Despite increases in the incidence rates of childhood cancers, deaths from childhood cancers have declined. Figure 4 shows the trend in mortality rates for childhood cancer in New York State from 1990 through 2016 for all children, and for the three largest racial/ethnic groups.



Children ages 0-19 years. Source of data: New York State Cancer Registry. Data provisional, November 2018.

¹Rates age-adjusted to the 2000 US population standard.

- For all children, the rate of children dying from cancer declined by an average of 1.1 percent a year during this time period, so that by 2016 it was about 20% less than what it was in 1990.
- Deaths from childhood cancers declined in both non-Hispanic whites and non-Hispanic blacks.
- Rates in Hispanics were more variable, and did not change significantly over this time period.
- Mortality rates for the three racial/ethnic groups were similar throughout this time.

A number of factors may contribute to childhood cancer disparities. Socioeconomic differences could influence the risk factors to which children are exposed as well as their access to and quality of medical care, including participation in clinical trials. Genetic differences may influence children's responses to available treatments, or the likelihood of finding bone marrow donors for some cancers. Research on the causes and treatment of childhood cancers is needed to better understand the causes of these disparities and find ways to reduce and eliminate them.

More research is needed to better understand and address differences in childhood cancer occurrence and survival between racial and ethnic groups.