



COVID-19 in children with cancer: Severe disease and disrupted treatment

Scientists from St. Jude Children's Research Hospital and the International Society of Paediatric Oncology report results from the Global Registry of COVID-19 and Childhood Cancer.

(Memphis, Tenn.—August 26, 2021) Research from a large international effort shows that 20% of children with cancer who are infected with SARS-CoV-2 develop severe infections. In studies of children overall, only 1-6% have reported severe infections. The results come from the [Global Registry of COVID-19 in Childhood Cancer](#), which was launched by [St. Jude Children's Research Hospital](#) and the [International Society of Paediatric Oncology](#) (SIOP). The registry gathers data on the pandemic's effect on this unique patient population. The findings were published today in *The Lancet Oncology*.

Results from the registry indicated that in addition to more severe or critical infections, pediatric cancer patients were more likely to be hospitalized and die than were other children. The pandemic also disrupted cancer treatment. These effects were observed more significantly in low- and middle-income countries, where the odds of severe or critical disease from COVID-19 were nearly 6 times higher than in high-income countries.

“The results clearly and definitively show that children with cancer fare worse with COVID-19 than children without cancer,” said corresponding author [Sheena Mukkada](#), M.D., St. Jude Departments of Global Pediatric Medicine and Infectious Diseases. “This global collaboration helps clinicians make evidence-based decisions about prevention and treatment, which, unfortunately, remain relevant as the pandemic continues.”

A greater burden for childhood cancer patients

This is the first multinational study to describe the outcomes of a large cohort of children and adolescents with cancer or hematopoietic stem cell transplantation and laboratory diagnosis of COVID-19. The registry remains open and is enrolling children younger than 19 years old.

The analysis looked at 1,500 children from 131 hospitals in 45 countries from April 15, 2020, to February 1, 2021. This is prior to vaccinations becoming available to older children in some areas of the globe, as well as prior to the emergence of certain disease variants, including delta, which are responsible for the new surge and have become a major global concern.

The study found that 65% of patients were hospitalized and 17% required admission or transfer to a higher level of care. It also showed that 4% of patients died due to COVID-19 infections, compared to 0.01-0.7% mortality reported among general pediatric patients. Cancer care was also affected. Cancer therapy was modified in 56% of patients and 45% had chemotherapy withheld while their infections were treated.

“By working together to create this global registry, we have enabled hospitals around the world to rapidly share and learn how COVID-19 is affecting children with cancer,” said the paper's co-author, Professor Kathy Pritchard-Jones, SIOP president. “The results are reassuring that many children can

continue their cancer treatment safely, but they also highlight important clinical features that may predict a more severe clinical course and the need for greater vigilance for some patients.”

A global pandemic and a global response

The registry suggests biologic factors that likely influence how children with cancer respond to COVID-19. Those include immune system function and the underlying disease. Analysis also showed that outcomes vary around the world, although the registry does not pinpoint causes. This variation may be due to a multitude of factors, including disruptions from the pandemic, access to care and resources, or delays in infection diagnosis.

Results from the registry are a call to action to address inequities in access to protective and effective treatment measures against the COVID-19 pandemic worldwide.

“Understanding a global crisis like COVID-19 requires our entire childhood cancer community around the world to come together to respond,” said senior author [Carlos Rodriguez-Galindo](#), M.D., St. Jude Global director. “The impact of this disease has been felt in every corner of the world, but particularly in low- and middle-income countries compared to high-income countries. There are critical differences based on where a child lives. This registry is a tool that is helping us understand what that means for children with cancer everywhere.”

The [registry](#) is still enrolling patients and continues to add new countries. It includes freely available data-visualization tools so that anyone, anywhere, can access the information.

Learn more about COVID-19 and vaccination

Vaccinations against COVID-19 have been demonstrated to be safe and effective in preventing severe forms of the disease, helping patients avoid hospitalizations and the need for mechanical ventilation. In the United States, vaccines are available and encouraged for children 12 years of age and older. Vaccination is one way to protect not only yourself but your community, including those who are at high risk of severe disease such as children with cancer.

Learn more about how [Vaccines Bring Us Closer](#) and check out [COVID-19 resources from St. Jude](#).

Authors and Funding

The study’s other authors are Guillermo Chantada, Hospital San Joan de Deu Barcelona, Spain; Rashmi Dalvi, Bombay Hospital Institute of Medical Sciences Mumbai, India; Laila Hessissen, Mohammed V University Rabat, Morocco; Michael Sullivan, University of Melbourne, Australia; Eric Bouffet, Hospital for Sick Children Toronto, Canada; Nickhill Bhakta, Yichen Chen, Yuvanesh Vedaraju, Lane Faughnan, Maysam Homsy, Hilmarie Muniz-Talavera, Radhikesh Ranadive, Monika Metzger, Paola Friedrich, Asya Agulnik, Sima Jeha, Catherina Lam, Daniel Moreira, Victor Santana, Miguela Caniza and Meenakshi Devidas of St. Jude; and more than 150 members of the Global Registry of COVID-19 in Childhood Cancer.

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About SIOP

Established in 1969, the International Society of Paediatric Oncology (SIOP), is the only global multidisciplinary society entirely devoted to paediatric and adolescent cancer. The society has over 1,800 members worldwide including physicians, nurses, other health-care professionals, scientists and researchers. Our members are dedicated to increasing knowledge about all aspects of childhood cancer. SIOP envisions that “no child should die of cancer” and is aiming to improve the lives of children and adolescents with cancer through global collaboration, education, training, research and advocacy. To learn more, visit siop-online.org or follow SIOP on social media at [@WorldSIOP](https://twitter.com/WorldSIOP).

About St. Jude Global

St. Jude Children’s Research Hospital established the Department of Global Pediatric Medicine in 2016 as a new academic department to address the global challenges in pediatric cancer and catastrophic diseases, and to build on its previous work to reduce disparities in access to care. As a result, St. Jude Global launched in 2018 to support the advancement of care for children with cancer and other catastrophic diseases through the development of comprehensive initiatives in capacity building, education and research. St. Jude Global is committed to ensuring that every child will have access to quality care and treatment no matter where in the world they live.

St. Jude Media Relations Contacts

Katy Hobgood

Desk: 901-595-0564

Cell: 901-568-9869

katy.hobgood@stjude.org

media@stjude.org

Michael Sheffield

Desk: (901) 595-0221

Cell: (901) 275-9065

michael.sheffield@stjude.org

media@stjude.org

St. Jude Children's Research Hospital

St. Jude Children's Research Hospital is leading the way the world understands, treats and cures childhood cancer and other life-threatening diseases. It is the only National Cancer Institute-designated Comprehensive Cancer Center devoted solely to children. Treatments developed at St. Jude have helped push the overall childhood cancer survival rate from 20% to 80% since the hospital opened more than 50 years ago. St. Jude freely shares the breakthroughs it makes, and every child saved at St. Jude means doctors and scientists worldwide can use that knowledge to save thousands more children. Families never receive a bill from St. Jude for treatment, travel, housing and food — because all a family should worry about is helping their child live. To learn more, visit stjude.org or follow St. Jude on social media at [@stjudereseach](https://twitter.com/stjudereseach).