**New Grant Supports Rutgers Study Seeking to Identify Factors for Children at**

**High Risk for Severe Illness from COVID-19.**

Rutgers researchers have been awarded $1.6 million from the [National Institutes of Health](#) in support of the creation of a national collaborative network seeking to identify risk and protective factors that may allow clinicians or public health professionals to predict which children are at greatest for serious illness from SARS-CoV-2 infection, the virus that causes COVID-19.

While children are less likely than adults to become severely ill, some develop severe acute respiratory illness; they also are susceptible to multisystem inflammatory syndrome of children (MIS-C), a critical illness that can occur several weeks after infection.

The two-year grant from the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD) of the NIH will support the development of a national network of networks, thus building an infrastructure that ensures that children from around the country can be a part of the study. The project is designed to incorporate a variety of scientific perspectives and integrate an array of multidimensional data – clinical, sociodemographic, epidemiologic, and biological – to develop approaches that allow clinicians and public health professionals to identify which children are at highest-risk for developing severe illness following infection of SARS-CoV-2.

The grant was awarded to Lawrence Kleinman, MD, MPH, professor and vice chair for academic development and chief, Division of Population Health, Quality, and Implementation Science (PopQuIS) in the Department of Pediatrics at Rutgers Robert Wood Johnson Medical School.

"If we can identify pediatric patients or communities at-risk for serious illness due to infection from SARS-CoV-2, then health care providers can be particularly vigilant with children at higher risk of getting the disease. We also can identify others who are potentially at low-risk so we may prioritize where resources for diagnosis and treatment are directed," said Dr. Kleinman, who is a principal investigator along with Daniel B. Horton, MD, assistant professor of pediatrics and epidemiology at Robert Wood Johnson Medical School, and Maria Laura Gennaro, MD, professor of medicine and epidemiology at Rutgers New Jersey Medical School.

Officially called the COVID-19 Network of Networks Expanding Clinical and Translational approaches to Predict Severe Illness in Children (CONNECT to Predict SIck Children), the two-year grant will support the collection of data from throughout the network that leverages inpatient, outpatient, community, and epidemiological resources funneled to Rutgers for analysis using machine learning (AI) and model-based methods. The research team will utilize the data to develop and refine predictive models for at-risk children.

Recruitment of participants will include children previously diagnosed with either COVID-19 or MIS-C, along with appropriate controls who have had mild or asymptomatic infections with SARS-CoV-2, who will provide survey data, including social determinants, and saliva and blood samples to identify persisting biological factors associated with severe disease. Additional participants will be recruited from throughout the network of networks, including newly infected children with severe COVID-19 or MIS-C identified through real-time surveillance.

Partners in the research include Bristol-Myers Squibb Children's Hospital at Robert Wood Johnson University Hospital, an RWJBarnabas Health facility in New Brunswick, NJ; New York Medical College with Maria Fareri Children's Hospital, part of Westchester Medical Center Network, Valhalla, NY; the Maternal Child Health Measurement Research Network (led by Dr. Kleinman) and the Child and Youth with Special Health Care Needs Research Network, both funded by the Maternal Child Health Bureau of the Health Resources Services Administration; American Academy of Family Physicians National Research Network; the Children's Hospital Association's Pediatric Health Information System (PHIS); the DARTNet Institute; EPIC Corporation's Cosmos data system; the Pediatric Rheumatology COVID Consortium; Yale University's Pediatric Genomics Discovery Program; MetroHealth, the Pediatric Research in Inpatient Settings Research Network; Family Voices, a national organization and grassroots network of families and friends of children and youth with special health care needs and disabilities; and the Sunflower Pediatric Clinical Trials Research Extension (SPeCTRE 2.0), an NIH-funded Idea States Pediatric Clinical Trials Network.

The grant is funded for two years with the potential for the research team to receive an additional two years of funding at more than $1 million per year.