



## **2015 NIH CAHM Honoree: Deborah Persaud, M.D.**

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Deborah Persaud, M.D., is a world-renowned expert on pediatric HIV and a pediatric infectious disease specialist at the Johns Hopkins Children's Center in Baltimore, MD. She is a professor of pediatrics at The Johns Hopkins University School of Medicine, where she also heads the fellowship program in pediatric infectious diseases. Dr. Persaud received her medical degree from New York University (NYU) School of Medicine and completed her pediatric residency and chief resident at Columbia Presbyterian Medical Center. She completed her fellowship in pediatric infectious diseases at New York University School of Medicine, where she was the recipient of an Aaron Diamond post-doctoral fellowship award for pediatric AIDS research.

Dr. Persaud has dedicated her life's work to understanding the behavior of the human immune-deficiency virus, or HIV, the virus that causes AIDS and applying this knowledge to help children affected by it. As a pediatrician-in-training in New York City in the 1980s, she witnessed the devastation caused by the virus during the early days of the epidemic. Dr. Persaud saw many HIV-infected babies and children succumb to AIDS, a harrowing experience that compelled her to study this formidable foe. Over the last 20 years, medicine has made great strides against HIV and AIDS. Yet, despite the remarkable advances that have occurred since the 1980s, today 3.3 million children worldwide continue to live with HIV and nearly 260,000 are infected during birth each year.

Dr. Persaud is on a mission to change this grim picture. Insights gleaned from her recent and ongoing work promise to do just that. Dr. Persaud's research specifically focuses on understanding some of HIV's most complex and perplexing behaviors, including its ability to form and maintain treatment-defying viral hideouts or reservoirs and its ability to mutate and to develop resistance to drugs. Dr. Persaud has also dedicated her efforts to improving strategies to prevent mother-to-child transmission in underdeveloped countries, where children have been hit the hardest.

Over the last 17 years, Dr. Persaud has established herself as a preeminent virologist and leader in the field of HIV pathogenesis in children. Her work has influenced treatment guidelines for children worldwide. In addition, Dr. Persaud directs the world's only laboratory to have continuously developed

ultrasensitive methods for the study of the origin and behavior of HIV reservoirs in children and teens. These molecular tests offer unmatched sensitivity in detecting the viral sanctuaries that pose the greatest hurdle to achieving an HIV cure.

Since the late 1990s and early 2000s, Dr. Persaud's research has made many important contributions to the field of pediatric HIV, including a clearer understanding of how hard-to-treat viral sanctuaries are formed in children. Her work has also demonstrated that these viral hideouts form early, within weeks of infection. Additionally, Dr. Persaud was the first to demonstrate that therapeutic HIV vaccines that enhance specific immune responses can, when used in concert with antiretroviral drugs, exert substantial immune pressure on HIV reservoirs, a finding that has illuminated a novel therapeutic pathway.

The importance of all these insights became clear in 2013, when Dr. Persaud, together with colleagues Hanna Gay of the University of Mississippi Medical Center, and Katherine Luzuriaga of the University of Massachusetts Medical School, presented the first-ever case of an HIV-infected infant who is in long-term HIV remission, without signs of active infection or circulating virus in the blood, despite being off treatment. The identification of this case and the detailed scientific evidence of the child's remission would have not been possible without Dr. Persaud's earlier work and the viral-reservoir-detection methods she developed. The case provided compelling evidence that children born with HIV can achieve remission by very early and aggressive therapy that begins within hours or days of infection. That realization sent ripples throughout the medical and lay communities and reinvigorated the field of HIV research, reigniting interest in finding a cure for a disease that had been all but chalked up as incurable.

In 2013, TIME magazine named Dr. Persaud and her collaborators on the Mississippi baby case among the world's 100 most influential people. She is also the recipient of the prestigious Doris Duke Clinician Scientist Award and the Elizabeth Glaser Scientist Award.

What makes Dr. Persaud's achievements particularly remarkable is the fact that she overcame serious odds. She was born and raised in Guyana, where she lived until age 16. Her mother left Guyana for the United States, when Persaud was 10 years old. Six years later, she and her three siblings joined their mother in Brooklyn, NY. After Persaud completed high school and college, just one medical school, New York University, accepted her.

Dr. Persaud is married to William Moss, also a physician, and has three children.