

CHAMPION

CHILDREN

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Columbia Mailman School has a storied history of protecting the youngest and most vulnerable.

Now, with the launch of the Child Health Center for Learning and Development, the stars are aligned to tackle this generation's most daunting challenges.

By Paula Derrow

IN THE SUMMER OF 2023, VIRGINIA RAUH, ScD, EMBARKED ON A LISTENING TOUR, ASKING FACULTY AT COLUMBIA MAILMAN SCHOOL, AT THE VAGELOS COLLEGE OF PHYSICIANS AND SURGEONS, AND ACROSS THE UNIVERSITY ABOUT THEIR WORK IN THE AREA OF CHILD AND ADOLESCENT HEALTH. The purpose was to identify research and service-related gaps—community health needs that were not being adequately addressed. For more than 20 years, as deputy director of the Columbia Center for Children's Environmental Health (CCCEH), Rauh had been putting children at the center of her work, studying the effects of prenatal and early childhood exposure to environ-

mental toxicants. (Her groundbreaking research showed that chlorpyrifos, first developed as a nerve gas by Germany in the 1930s and then used as a pesticide, is associated with brain and behavioral change in children and youth. It helped lead to a ban on the chemical's use in 2021.)

As a perinatal epidemiologist with training in psychiatric epidemiology, Rauh has focused on the neurodevelopment of children, who are particularly vulnerable to physical, environmental, and social stressors in their environment. She has been a faculty member at Columbia Mailman School since 1984; in April, she was named the Jane and Alan Batkin Professor in Child Health and Well-Being. As the community of children in CCCEH birth cohort studies matured, she turned her attention to the well-being of older children and youth in the School's Washington Heights neighborhood. The time was right to focus on older children. In the listening tour, she says, "One thing that came up again and again is that, while there have been many excellent programs for very young children in the community, school-age children and adolescents continue to have unmet health and developmental needs, many of which were exacerbated during the COVID-19 pandemic."

Not that research wasn't being done. "There are amazing things going on in every department related to children's health at Columbia Mailman School and throughout the University—including research exploring the effects of environmental stressors, climate change, and the impact of gun violence," says Rauh. "But we could be doing more to integrate and build on these efforts."

A CHILDREN'S CENTER IS BORN

For years, Rauh and Danielle Kassow, PhD, director of programs in the Heilbrunn Department of Population and Family Health, had talked about creating a center that would focus more broadly on the health and development of school-age children. "The idea is to bring together researchers and practitioners at Columbia in child and adolescent psychiatry, pediatrics, and public health to work together synergistically to solve ongoing health, developmental and learning problems experienced by school-age children" Rauh explains.

Now, that dream has become a reality. Thanks to a generous endowment from Alan R. and Jane Batkin to fund a professorship, the School has launched the new Child Health Center for Learning and Development, with Rauh as its inaugural director. Alan R. Batkin (chair emeritus of Columbia Mailman School's Board of Advisors) and Jane Batkin (a retired child psychologist) are longtime advocates for children's health. The couple was keenly interested in the teaching and community training that Rauh and Kassow were doing that

focused on the effects of childhood trauma on growth and development. “We teach a course on adverse childhood experiences. Alan and Jane have been directly engaged and visited to hear our students’ presentations,” reports Kassow. The Batkins’ extraordinary generosity ensures that the School will be able to continue to invest in children’s health.

Given the powerhouse talents already focused on children’s health at Columbia Mailman School and throughout the University, “having a center that pulls together people doing this research and service was a no-brainer,” says Rauh. “We aim to reach children where they spend a great deal of time—in schools in Washington Heights, Inwood, Harlem, and the Bronx. We are planning is to develop a corps of MPH students from different departments to work in the schools with existing providers and educational professionals.”

Among their goals: to bring the data management and analytics skills of public health experts to help evaluate the effectiveness of the various programs. “If children are missing a lot of school because of asthma flare-ups, for instance, our students could monitor and assess family engagement with the asthma management techniques the children are being taught in school clinics, to try to reduce school absences and increase children’s capacity to manage their symptoms,” Rauh explains. The MPH students would get credit for doing public health science teaching and other after-school health-related activities with children and youth. “We would then measure the impact of our work—on dropout rates, truancy rates, or the children’s academic performance,” she says. “We would also like to compare health outcomes of children in schools that have on-site clinics with schools that don’t have them,” she says. “Do children who have access to school clinics end up in the emergency department less? Do they see their pediatrician more regularly?”

Kassow is excited about sending students out into the living laboratory of New York City to partner with organizations like Fresh Youth Initiatives, which serves many immigrant and first-generation youth in the area. One scenario she imagines: “Our students could assess the impact of their programs, and collaborate on ways to make programs stronger.”

FIGHTING THE TOP ENEMY OF CHILDREN: FIREARMS

The new Center will complement an array of Columbia Mailman School’s existing programs and renowned experts, all laser focused on giving children a chance to grow up in a safer, less toxic world. One of those researchers is Sonali Rajan, EdD, a professor at both Columbia Mailman School and Teachers College. She is also the first president of the new Research Society for the Prevention of Firearm-Related Harms, which evaluates evidence-based practices for preventing firearm-related injuries and deaths.

Since 2020, firearms have been the No. 1 cause of death among U.S. children. But even before guns sat at the top of the list of threats to children, gun violence and injury prevention were a primary focus for Charles Branas, PhD, Gelman Professor of Epidemiology and chair of Epidemiology. “What we’re doing is very much in line with the new Center’s mission, which includes studying the effects of adverse childhood experiences and trauma,” says Branas. Along with his work leading the Centers for Disease Control

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—RAUH



and Prevention (CDC)-funded Columbia Center for Injury Science and Prevention, which, for more than a decade, has been tackling issues such as child safety seats, the nation's opioid crisis, alcohol misuse, and now gun violence, Branäs wants nothing more than to "solve the problems that seem intractable; it's what so many of us go into public health for—to focus on issues where we can do the greatest good."

Gun violence is one of those intractable problems, and moving the needle isn't easy. "Because of politics, our country hasn't even vaguely invested the amount of money in solving this problem compared with, say, reducing infectious disease in kids," Branäs says. "When I started out as a junior researcher, I was told not to use the f-word in my papers—I'm talking about 'firearm.'" But thanks, in part, to the work of Branäs and nearly three dozen faculty across various schools at the University who are part of the Columbia Scientific Union for the Reduction of Gun Violence (SURGE), there has been some progress. This past June, U.S. Surgeon General Vivek Murthy, MD, declared gun violence a public health crisis.

New streams of funding from the CDC and the National Institutes of Health are enabling Branäs and his team to look at the effectiveness of various types of gun violence prevention strategies in schools, whether metal detectors, educational programs, or arming teachers. "Too often, we focus on reacting to gun violence instead of looking at how well preventive tactics work," he says. "Right now, for instance, states are actively arming teachers, but we haven't thought through the implications of that." Branäs is also studying the role of school nurses in gun violence prevention, and how well social and emotional learning programs work.

One finding has already been transformational: "Improving housing and expanding green spaces in under-resourced communities not only makes people feel better and healthier, but it also reduces gun violence," says Branäs. "When you have vacant lots and abandoned housing, that increases the opportunity to store illegal guns. Our research shows that improving those spaces reduces that problem and empowers the community to interrupt the cycle of violence," says Branäs. "That's the most basic kind of public health."

A FRESH FOCUS ON CLIMATE CHANGE

Just as crucial to the future of our children: the groundbreaking research on the effects of air pollution, pesticides, and other toxic chemicals on fetuses, infants, and children spearheaded by Frederica (Ricky) Perera, MPH '76, DrPH '82, PhD '12, professor of Environmental Health Sciences. Perera is founder of CCCEH at Columbia Mailman School, where she served as director from 1998 to 2019. "Long be-

fore the Center was launched, I was studying environmental toxicants and cancer in adults; then I found that the same molecular markers of exposure to carcinogens were present in newborns. It was clear that we needed to learn more about toxic exposures in the womb."

The Center began by studying air pollutants. Then Robin Whyatt, DrPH, now professor emeritus, and Rauh brought a focus on pesticides. "The current director, Julie Herbstman, [MSc, PhD], was interested in chemicals in flame retardants and endocrine disruptors like PCBs," Perera says. The mission grew organically, "and the work just took off," she adds. The Center is following over 1,000 mothers and children to learn about long-term effects of early environmental exposures. "We're seeing children of the children—it's a multi-generational study," Perera says.

More recently, as director of CCCEH's Translational Research Program, Perera has focused on the ways fossil emissions and climate-driven exposures affect kids' cognition, behavior, academic success, and ability to contribute in life. "We're interested in the benefits of environmental and climate policies for children," she says. Between Zoom meetings during the COVID-19 pandemic, Perera wrote the book *Children's Health and the Peril of Climate Change*. At the moment, she is focused on how policies that curb fossil fuel emissions and CO₂ impact the health of children. "Right now, we're studying how policies to electrify vehicles and reduce power plant emissions benefit children, as well as how New York City's congestion pricing plan [slated to be implemented in January 2025] might benefit economically vulnerable children, especially."

Like Rauh and Branäs, she is happy that more attention is being paid to children, early exposures, and their development, as well as to the economic disparities that put so many vulnerable kids at risk. "One thing I write about in my book is that we can't just say we've done the deal if we've brought down emissions; we need social programs integrated with environmental programs. That means giving kids access to good nutrition, preventive healthcare, and top-notch education. That's why what Ginny [Rauh] is doing now—focusing on school-age kids in schools—is so important."

With the endowment from Jane and Alan R. Batkin and the new Child Health Center for Learning and Development, Rauh is adding to the work already being done across Columbia Mailman School. "I see this as a great opportunity to pull together the different parts of my own life's work, alongside the work of Charles Branäs and Sonali Rajan on gun violence and trauma and kids; and of Ricky Perera and Julie Herbstman on children and climate change," says Rauh. "The new Center provides a scaffolding for us to build on. It's all coming together." ●

Paula Derrow covers health, psychology, and social change for a wide variety of outlets, including universities and nonprofits.