

From Classroom to Careers: Training the Next Generation of Translational Researchers in New York

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Stephanie Quintero Chacon had already spent two weeks navigating a life-threatening brain hemorrhage and multiple hospital visits when she began **NYU Langone's Scientific and Technical Education Pathway Programs for Students (STEPPS)** as a college junior. Her deeply personal health care experience—marked by delayed diagnosis and the need to self-advocate for life-saving brain surgery—became a turning point that transformed her understanding of the system and galvanized her desire to become a doctor. Determined to improve health outcomes for others in her New York City community, over the course of her one-year STEPPS clinical research internship, Stephanie came to understand the power of research to shape the systems that failed her.

Stephanie is among 136 trainees whose hands-on experiences in clinical and translational research come through STEPPS, NYU Clinical and Translational Science Institute's (CTSI) training pipeline started in summer 2023.

Based out of the CTSI's Brooklyn clinical research center, STEPPS has supported, in just three short years, a combination of didactic and hands-on learning, mentorship, and paid research experiences for 95 high school students in five cohorts, 39 undergraduates in an award-winning one-year internship experience, and two New York City high school science teachers, who have since been integrated into curriculum development and facilitation for the student programs. Participants in the undergraduate program, which was selected for the 2025 NCATS Translational Science Education and Training Challenge Prize, have produced 12 scholarly presentations and four manuscripts, and 1/3 of alumni entered the clinical and translational workforce after completing college. Nearly 50% of undergraduate participants had no prior research experience.

This last point is key, as the clinical and translational workforce faces a critical need to expand yet is plagued by high staff turnover, lack of quality training, and barriers to entry that usually require at least two years of research experience and a bachelor's degree. In 2022, just before the CTSI launched STEPPS, the Society for Clinical Research Sites reported that **U.S. employers had posted seven jobs for every eligible candidate seeking a**

clinical research coordinator position. Career Explorer currently estimates that the clinical research coordinator job market will grow five percent by 2032.

The CTSI developed STEPPS to expand students' imaginations for their future and to expose them to the wealth of career opportunities within clinical research, from clinician researchers, to research nurses, to investigative pharmacists, to compliance officers, and more. The high school program, focused on building awareness of clinical research and related careers, is a partnership with the New York City Department of Education. Each year, a cohort of south Brooklyn 11th graders spends one school day a month at the clinical research center to learn the foundations of clinical research and its impacts on community and public health. They earn course credit as they work in teams to develop research proposals. Clinical and translational research professionals teach the sessions and talk with students about their jobs and career journeys, and students can choose to return as peer mentors the following year.

The undergraduate program is designed to develop a highly skilled and experienced research workforce. Every August, a new cohort participates in a rigorous, three-week, full-time crash course in clinical and translational research fundamentals that features lectures and a flipped classroom model with lessons that are reinforced through real-world, hands-on experience and shadowing within the clinical research center. The curriculum is based on the eight domains of the Joint Task Force for Clinical Trial Competency core framework for the clinical research professional. Following the training intensive, students spend the remainder of the paid internship employed as interns working on active clinical research studies with a faculty mentor, and they present the work at a research symposium with other NYU Langone interns in the summer.

The high school science teacher enrichment program engages New York City public school teachers in intensive clinical research training and curriculum development. The idea behind the program is that teachers who have real world clinical research training and experience can enrich the classroom experience for their students—and expose students to career pathways they might not otherwise have considered. The two graduates of the summer program have been integral in transforming the STEPPS high school and undergraduate curricula through engagement activities and creative assessments that support knowledge uptake. They are now helping to adapt the program to train future cohorts in developing clinical research lesson plans and units that can be integrated directly within schools, with a potential reach across 534 New York City high schools and beyond.

The goal of STEPPS is to translate students' awareness and experience into real world action—to inspire them to choose clinical research for their future careers. While the high school students have a little further to go than the undergraduates, many high school alumni reported they plan to pursue a career in research. The CTSI recently changed the undergraduate eligibility criteria to align participants' graduation timelines with internship completion so STEPPS faculty and staff can better support alumni in entering the clinical

research workforce. So what does the future of the clinical research workforce hold, at least in New York City? Working with a faculty mentor increased Stephanie's confidence and deepened her understanding of how evidence informs best practices, influences policy, and, most importantly, improves people's lives at a systems level. She accepted a full-time role with her mentor when she graduated, and this fall, Stephanie will begin studying for a Master of Public Health degree. Her ultimate goal? To earn a PhD in health psychology and focus her own research on the long-term effects of stress and trauma on people's health.

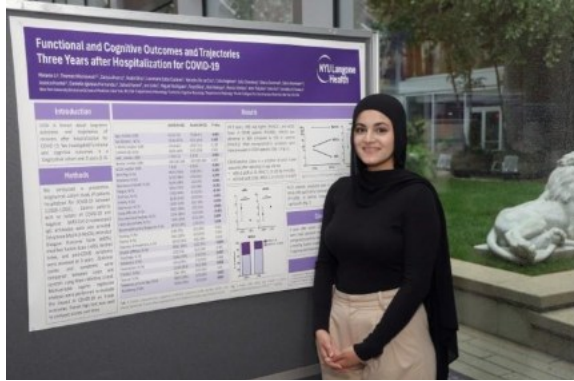
Additional Story Media



Stephanie Quintero Chacon recovers from a successful brain surgery in January 2022



Stephanie Quintero Chacon and her mentor Dr. Robin Ortiz present a research poster at the 2025 Pediatric Academic Societies meeting. Stephanie has been working with her mentor full-time since she completed STEPPS and will start a graduate program in the fall.



Salma Hammam presents a poster based on her work with neurology faculty at the 2024 NYU Langone Student Summer Research Symposium. Salma continued volunteering with her mentor when she completed STEPPS, and the Brooklyn clinical research center hired her as a clinical research coordinator after she graduated.



Alejandra Martinez and Mary Moussa present their 2024 STEPPS summer intensive final project, a manual of procedures they wrote for a clinical trial protocol, to faculty, staff, and students



STEPPS faculty, staff, and high school, undergraduate, and teacher trainees at the NYU Langone Summer Student Research Symposium in 2024, where the first STEPPS cohort presented their research.



Students in the high school program watch as trauma surgery residents practice on a cut suit in November 2025. The field trip was organized in collaboration with one of the STEPPS undergraduate mentors, whose work focuses on the use of cut suits in medical training. Students also received Stop the Bleed certification during this session.



STEPPS high school students and staff celebrate the opening ceremony of the STEPPS partnership with the New York City Department of Education with NYU CTSI director Miriam Bredella, director of research collaboration and mentoring Melanie Jay, and Brooklyn South high schools superintendent Michael Prayor

Additional Story Figures

Path 1	Community-Based Jobs: research community health worker (CHW), research patient navigator
Path 2	Clinical-Based Jobs: research assistant, associate research coordinator, research medical assistant
Path 3	Data Roles: research data associate
Path 4	Lab Roles: research lab technician, lab assistant
Path 5	Continuing Education/Training: STEPPS enrollment, certificates (CTSI, laboratory science, medical assistant)
Path 6	Post-Secondary Education: Bachelors, nursing school

Figure 2. REDI-STEPP Educational and Career Pathways

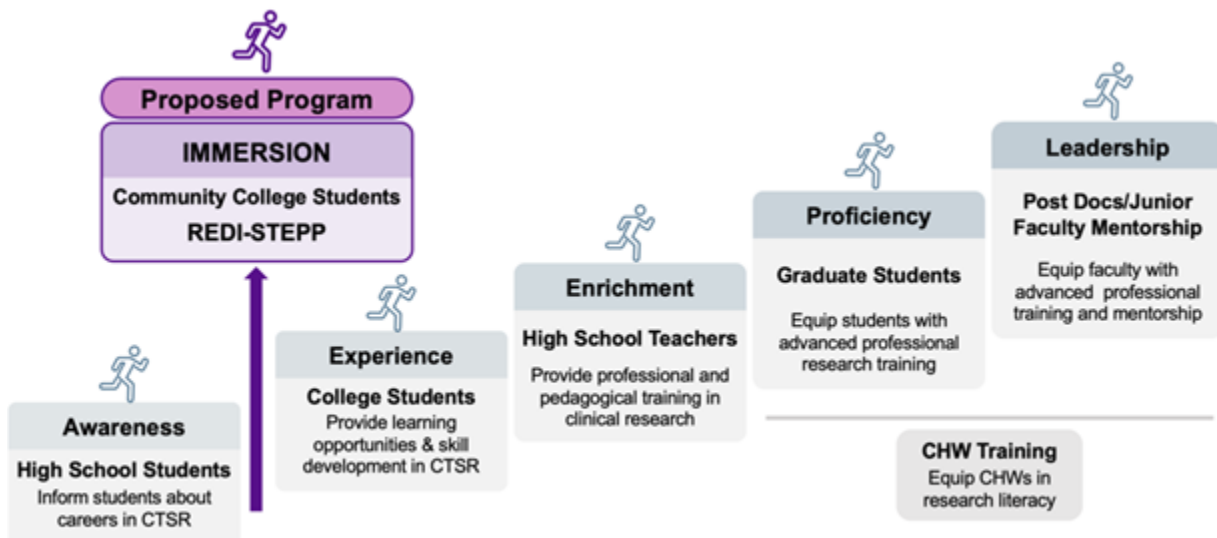


Figure 3. REDI-STEPP Program Integration with STEPPS