



The Center for Emerging Infectious Diseases: A New Approach to Tackling Outbreak

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While we have all become well acquainted with the consequences of disease outbreaks over the last 2 years, Rush University Medical Center has been at the forefront of these events for decades. Our city has faced many challenges such as the 1990's Chicago heat wave, Anthrax, Ebola, SARS, and now Covid-19, yet the remedies utilized to resolve the outbreak rarely continued after the event. Rush University Medical Center seeks to challenge that norm by innovating a blueprint for preparing for these outbreaks ahead of their arrival and maintaining the solutions long term. Rush received a generous \$1 million grant to implement the new "*Center for Emerging Infectious Diseases*" (*CEID*), which provides a framework for faster and more efficient research, clinical, and public health responses to health outbreaks.

Center for Emerging Infectious Diseases

The Center for Emerging Infectious Disease is a novel development designed to tackle health outbreaks in their tracks. The CEID consists of varying underlying projects, such as: The CEID teaching laboratory, STEM high school teacher training, the instrument lending library, and seed grant funding. *The CEID teaching laboratory* is a newly renovated 500 ft² facility (pictured to



the left) that offers instrumentation and hands-on training in various aspects of genetics and environmental research. This research space is designed for Chicagoland STEM high school teachers, medical students at Rush University and college students that demonstrate interest in science-based careers. Through this facility, the CEID has initiated a

STEM high school teacher training program that offers teachers across Chicagoland access to expert faculty at Rush University, training them in techniques such as detecting and quantifying pathogens, preparing samples for DNA sequencing and how to design curriculum and project design for their students. Within the training program for teachers, *the instrument lending library* serves as an outlet for teachers to directly implement science research in their own school. Through this program, teachers can learn techniques using various equipment, bring the equipment back to their school to teach their students, and return to Rush when finished for the next school to utilize. Equipment in this feature consists of instrumentation such as centrifuges, vortexes, pipettes, PCR devices, electrophoresis and gel doc systems, DNA extraction kits, PCR mixes and more. To fully engage Rush and the Chicago community, the CEID is distributing *more than \$300,000 of seed grant funding* to research programs that study infectious disease to enhance preparedness for new emerging infectious diseases. These programs cover a multitude of areas, such as COVID-19, antibiotic resistance, STI's and other infectious diseases, and include

teaching seminars for Rush employees to better understand subject areas. These collaborations are between Rush and community organizations and serve to create a coordinating organization that can arrange efforts to consolidate a quick response in the event of a new outbreak.

Community Engagement

The CEID aims to provide more efficient and rapid responses to arising outbreaks while emphasizing trust and engagement with surrounding communities. To best serve and involve the community in ongoing efforts, the CEID is working with other community programs to provide ***educational style seminars*** surrounding different aspects of infectious disease for the community. All seminars provided are scientifically based, taught in a way that is digestible and relevant to the public. Speakers within the seminar component are medical, research and/or public health experts from across Chicago. The hope of the CEID is to engage and include the public in ongoing research and scientific discoveries to enhance both interest and understanding in infectious disease, while coordinating efforts across Rush and the community to heighten the response in future outbreak events.

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