

Additional Information

Cleveland as the ideal home for ARPA-H

The City of Cleveland is uniquely positioned to fill the needs of this new agency. ARPA-H will be at home in the center of Cleveland's Health-Tech corridor and Cleveland Innovation District, surrounded by a myriad of healthcare experts and research institutions. Cleveland is home to world-class hospitals, including Cleveland Clinic, University Hospitals Health System, and the MetroHealth System; world-class institutions of higher education such as Case Western Reserve University and Cleveland State University; and world-class ideas and partnerships to discover and innovate in the health sciences, all of which is described below.

The Cleveland Innovation District

Recently, the Cleveland Innovation District was established with \$100 million of investment from the state of Ohio, \$100 million from Jobs Ohio, and more than \$400 million from Cleveland Clinic and its partners, including Case Western Reserve University, Cleveland State University, University Hospitals, and the MetroHealth System. The Cleveland Clinic Global Center for Pathogen & Human Health Research sits at the heart of the Innovation District and is focused on broadening our understanding of viral pathogens and the human immune response toward preparing and protecting against future public health threats.

The Discovery Accelerator

Cleveland Clinic and IBM partnered to establish the first private-sector quantum computer in the country in Cleveland to accelerate discovery in healthcare and life sciences.¹ The Discovery Accelerator is a joint Cleveland Clinic/IBM center with the mission of fundamentally advancing the pace of discovery in healthcare and life sciences through the use of high-performance computing on the hybrid cloud, artificial intelligence (AI) and quantum computing technologies. The collaboration will establish a robust research and clinical infrastructure to empower big data medical research in ethical, privacy preserving ways, discoveries for patient care and novel approaches to public health threats such as the COVID-19 pandemic. Through the Discovery Accelerator, the researchers plan to use advanced computational technology to generate and analyze data to help enhance research in the new Global Center for Pathogen & Human Health Research.

National Center for Regenerative Medicine (NCRM)

Seven hundred biomedical companies in Cleveland provide ready partners to commercialize and rapidly deploy ARPA-H's breakthroughs so that they can quickly be used for patient care. Cleveland also hosts the National Center for Regenerative Medicine (NCRM).² Notably, NCRM's research programs have resulted in an established network of academic, medical, and corporate institutions working together to accelerate the discovery and delivery of cellular therapeutics into the standard of care. The NCRM's specialized research programs span 13 therapeutic areas and are designed to support both interdisciplinary and translational research efforts.

¹ <https://newsroom.ibm.com/2021-03-30-Cleveland-Clinic-and-IBM-Unveil-Landmark-10-Year-Partnership-to-Accelerate-Discovery-in-Healthcare-and-Life-Sciences>

² <https://case.edu/medicine/ncrm/>

NIH Center for Accelerated Innovations (NCAI)

Cleveland is also home to the National Center for Advancing Innovation (NCAI)³, designed to accelerate the translation of scientific discovery into commercial products that improve the health of patients. Specifically, the NIH created a nationwide network of three Centers located in Boston, Ohio, and California, merging the strengths of over two dozen high-impact medical research institutions to develop best practices in translating academic innovations into new drugs, devices, and diagnostics.

Health-Tech Corridor

Cleveland is a city that embodies rebirth, innovation, growth and resiliency. In place of the urban blight that once spanned the city's midtown, the new Health-Tech Corridor, a collaboration between multiple municipal organizations and non-profits, offers companies access to the services and support they need to grow entrepreneurial support, venture capital, collaboration with world-class researchers, a skilled workforce, high-speed internet access, and the backing of the public sector.⁴ Since 2008, this corridor has generated \$4 billion of investment as new partners settle into this growing community of health science innovators. ARPA-H could be the crown jewel of this community, linking and leveraging the city's research institutions and biomedical startups to rapidly develop and commercialize breakthroughs that will revolutionize the treatment of chronic diseases from diabetes to cancer.

Cleveland Clinic

Cleveland Clinic is ranked number one in cardiac care and heart surgery and as the second best health system in the world.⁵ Additionally, Cleveland Clinic is ranked nationally in 13 adult specialties and nationally ranked in 10 children's specialties. With more than 65,000 caregivers worldwide, Cleveland Clinic has almost 6 million patient visits per year, at more than 200 locations. It is also a major NIH research partner, receiving \$115 million in grants last year.⁶

University Hospitals Health System

University Hospitals Health System is home to UH Rainbow Babies & Children's, one of the nation's leading children's hospitals,⁷ as well as UH Seidman Cancer Center, part of the NCI-designated Case Comprehensive Cancer Center at Case Western Reserve University School of Medicine. UH's total research portfolio, in conjunction with Case Western Reserve University, is \$180 million and includes more than 3,100 active clinical trials and research studies underway. In addition, the UH system hosts the Harrington Discovery Institute, a unique \$650 million initiative that supports drug discovery and development locally and globally through mission aligned non-profit and for-profit vehicles to address unmet medical needs. Harrington Discovery has helped in the development of over 150 breakthrough discoveries and 30 companies across the U.S., Canada and the UK.

The MetroHealth System

The MetroHealth System, Greater Cleveland's public hospital system, is nationally recognized as a leader in addressing social determinants of health and improving population health outcomes. The MetroHealth Population Health Research Institute (PHRI) has received more than \$21 million in federal funds and is

³ <http://www.ncai-cc.ccf.org/>

⁴ [About – Health Tech Corridor](#)

⁵ [Cleveland Clinic in Cleveland, OH - Rankings, Ratings & Photos | US News Best Hospitals Rankings](#)
[World's Best Hospitals 2022 - Top 250 \(newsweek.com\)](#)

⁶ [Facts & Figures | Cleveland Clinic](#)

⁷ [Rainbow Babies and Children's Hospital in Cleveland, OH - Rankings, Ratings & Photos | US News Best Children's Hospitals Rankings](#)

comprised of three centers that help address social determinants of health: the Center for Reducing Health Disparities, the Center for Clinical Informatics Research and Education, and the Center for Health Care Research and Policy. PHRI brings together collaborators from across the region to foster equitable, thriving, healthy communities and develop bold interventions to address health disparities. MetroHealth is also building a CAR-T cell laboratory (scheduled for completion this summer) that will bring cutting edge cancer treatments to patients of underserved communities and will help support the work of the Cleveland Innovation District. MetroHealth's physicians, researchers, and pharmaceutical partners are developing novel CAR-T therapies, which have already received orphan-drug designations from the FDA.

Center for Rehabilitation Research (MCCR)

In partnership with Case Western Reserve University and the Louis Stokes Cleveland Veterans Affairs Medical Center, the MetroHealth Center for Rehabilitation Research (MCCR) is a global leader in the development and implementation of functional electrical stimulation (FES) technologies to help restore motor functions for persons with central nervous system paralysis.⁸ The Department of Physical Medicine & Research (PM&R) is ranked second in NIH funding among U.S. medical school PM&R departments.

Case Western Reserve University

Case Western Reserve University's undergraduate and graduate biomedical engineering programs are ranked among the top 20 in the nation. The School of Medicine is one of the top 25 in the country and both the number one medical school and largest biomedical research institution in Ohio. It consistently ranks in the top tier of medical schools for NIH research funding. The Frances Payne Bolten School of Nursing is ranked 10th in the nation. When President Biden formally announced ARPA-H in March 2022, he invited Case Western Reserve biomedical engineering professor and associate director of the Advanced Platform Technology Center, Dustin Tyler, to join him at the White House. Professor Tyler has developed innovative technology that brings the sensation of physical touch to amputees with prosthetic limbs.

Cleveland State University

Cleveland State University (CSU) is a comprehensive university with particular strength and emphasis on applied research. The Washkewicz College of Engineering at CSU has over 90 years of history and partners with the Biomedical Engineering Department at Cleveland Clinic to conduct top-quality research, specifically focused on the development of innovative diagnostic technologies and new therapeutic approaches to diseases that ensure better quality of life for patients.

NASA Glenn Research Center

Cleveland also cultivates scientific excellence at NASA Glenn Research Center. NASA's Glenn Research Center researches, designs, develops and tests innovative technology for aeronautics and spaceflight. They design game-changing technology and are considered experts in biomedical technologies in space.

⁸ The MCCR is the culmination of decades of successful work bringing clinicians of MetroHealth's Level 1 Trauma Center, Comprehensive Stroke Center, and federally designated Spinal Cord Injury Model Systems Center together with innovative translational research to advance the restoration of function due to disease or injury.