

The COVID-19 Unit for Research at Elmhurst (CURE-19)



Arnhold Institute
for Global Health

NYC
HEALTH+
HOSPITALS

Elmhurst

A Pandemic Response Initiative of the **NYC Health + Hospitals/Elmhurst Hospital Center Global Health Institute**, in partnership with the **Arnhold Institute for Global Health at the Icahn School of Medicine at Mount Sinai (ISMMS)**

Why:

The NYC Health & Hospital System (NYC H&H) is the largest public hospital system in the nation. NYC H&H forms the social safety net for the city's poor, undocumented, and uninsured. The Icahn School of Medicine at Mount Sinai partners with NYC H&H at two of its flagship hospitals, Elmhurst and Queens Hospital Centers, for training, care delivery, and research. These two hospitals are at the "epicenter of the epicenter" of the COVID-19 pandemic, serving a catchment area of more than 1.5 million people in predominantly poor, marginalized immigrant communities. The true test of innovations that address health disparities in New York City is if they impact practice and policy at NYC H&H.

What:

To meet the unprecedented needs of COVID-19, we have created the **COVID-19 Unit for Research at Elmhurst (CURE-19)**, housed within Elmhurst Hospital's Global Health Institute and in partnership with the Arnhold Institute for Global Health at ISMMS. We aim to translate the experiences, data, and lessons from Elmhurst and Queens Hospital into scalable innovations that address both the COVID-19 pandemic and the root causes of health disparities.

Who:

The unit is co-chaired by the Chair of the Global Health Institute, **Dr. Joseph Masci**, and the Chair of the Arnhold Institute for Global Health, **Dr. Rachel Vreeman**. Dr. Joseph Masci is a pioneering infectious disease physician and Professor of Medicine at the ISMMS who has been at the forefront in the fight against many of the world's most substantial microbial threats over the last two decades, including AIDS, tuberculosis, bioterrorism, Ebola, and, now, COVID-19. He has led HIV/AIDS focused work with partners in Ethiopia and Russia for many years. Dr. Vreeman is a pediatrician and global health researcher with expertise in research and clinical strategies to combat HIV in sub-Saharan Africa. She has expertise in health services research, clinical trials, and following cohorts of patients living with infectious diseases, in addition to coordinating collaborative global research networks. Within this unit, Dr. Masci, Dr. Vreeman, and a team of research coordinators and staff support local clinician-researchers trying to answer critical questions about how to care for vulnerable populations and address health disparities within this pandemic.

Photo: Daily News



How:

We conduct studies to answer key treatment questions, as well as community-based, longitudinal studies that address some of the COVID-19 pandemic's most pressing social and epidemiological challenges. We collaborate with the Mount Sinai Health System to ensure efforts are coordinated, and to incorporate Elmhurst Hospital into their research efforts where it makes sense to do so. Our initial primary focus is **achieving treatment access for adult patients, examining social and environmental determinants of COVID-19 infection, and understanding COVID-19's impact on the pregnant and newborn populations.** We aim to translate the results of these studies directly into policy and practice throughout the NYC H&H public system and beyond. Studies in development include:

- Impact of Tocilizumab on COVID-19 Patient Oriented Outcomes [PI: Salama]
- Early Treatment with Hydroxychloroquine and Azithromycin for Mild COVID-19 Disease [PI: Salama]
- Longitudinal Cohort of COVID-19 Infected Pregnant Women and Their Infants from Elmhurst and Queens Hospital Centers [PI: S. Maru]
- Person-Centered Care: Exploring Inequities in Maternal Child Healthcare in Queens, NYC [PI: S. Maru]
- COVID-19 Epidemiology among Routinely Screened Pregnant Women at Elmhurst Hospital, Queens, NYC [PI: S. Maru]
- An Evidence-based Strategy for Follow-up Pulmonary Care and Monitoring for Patients Discharged with COVID-19 and Abnormal Chest X-rays [PI: J. Masci]
- Coronavirus Impact on Birth Equity (VIBE Study) [PI: E. Howell]
- Environmental, Demographic, and Genetic Factors Affecting COVID-19 Mortality and Hospitalization: Analysis from the Mount Sinai Health System, Elmhurst, and Queens Hospital Centers [PI: A. Lee]
- SARS-CoV-2 Seroepidemiology among Employees of New York City Health and Hospitals [PI: N. Davis]
- Examining the Impact of COVID-19 and Social Distancing Policies on Adolescents Living with HIV in NYC [PI: R. Vreeman]



CURE-19 Focus Areas

We have identified four areas of urgent need that the extraordinary communities in Queens, together with the collective expertise of Elmhurst Hospital Center and the Arnhold Institute for Global Health, can address in our fight against COVID-19. Our core capacities, built from our extensive local and global experience, particularly in New York City, Kenya, Nepal, Ethiopia, and Russia, involve 1) community-based engagement; 2) longitudinal follow-up of specific populations; and 3) aiming to achieve impact by changing policy, practice, and health systems. In each of these domains, we aim to work with our global partners to identify opportunities for exchange and collaboration. Much of this work is rooted in the insight, borne from our clinical and research experiences, that healthcare systems *improvements that address social inequities are fundamental to pandemic preparedness and response.*

Protecting the most vulnerable

Maternal and Child Healthcare in the Time of COVID-19

- At the height of the COVID-19 epidemic at Elmhurst Hospital, over one-third of all pregnant women admitted to labor and delivery were positive for the COVID-19 virus. COVID-19 has added unimaginable stresses on pregnant women, from fears of the virus for themselves and their families to economic stressors to facing deliveries and the newborn weeks without social support. We know from extensive scientific work that maternal stress has devastating impacts on mothers and children. In this body of work, we aim to expand community-based doulas, improve social supports, learn from a cohort of affected women and their newborns through long-term follow-up and engage community-based organizations to improve the care of mothers and their children during these uncertain times.

People Living with HIV in the Time of COVID-19

- The CURE-19 leadership has extensive clinical and research expertise in shaping the care of children, adolescents, and adults living with HIV – both in global settings such as Kenya, Ethiopia, and Russia, and in NYC. With COVID-19, people living with HIV are another vulnerable population at high risk from this pandemic, as they often grapple with both immune suppression and other social and economic vulnerabilities. Our teams have launched evaluations of the impact of the COVID-19 pandemic, lockdowns, and social distancing measures on the physical, mental, and social health of adolescents and adults living with HIV, with phone-based assessments, outreach, and clinical support for people living with HIV in both Kenya and in NYC.

Photo: Anna Shvets from Pexels





Addressing the Social and Environmental Determinants of COVID-19

- Social and environmental factors drive the risks of infection, mortality, and morbidity of COVID-19. These factors also drive the excess morbidity and mortality due to non-COVID-19 conditions that are exacerbated by the social and economic disruption caused by COVID-19. We are presently conducting a large retrospective analysis assessing at the household level the impact of air pollution, overcrowding, excessive policing, race/ethnicity, household income, and the built environment on COVID severity. We will then develop longitudinal studies of strategies to mitigate these risks, to build greater resiliency and preparedness within the local community.

Combating the Root Causes of COVID-19 Severity: Multiple Chronic Conditions

- Our clinical work has brought into dramatic relief the significant role of chronic conditions in increasing the severity of COVID-19. Cardiovascular conditions, in particular, which already result in massive disparities in life expectancy – hypertension, obesity, diabetes – have a profound effect on COVID-19 risk and outcome. Patients with both chronic conditions and a history of COVID-19 face an uncertain medical future. In this work, we will develop solutions that simultaneously address the issue of multiple chronic conditions and the COVID-19 response. A key strategy will be developing longitudinal cohorts of patients that leverage community health workers, community-based organizations, technology, and individualized treatment programs to best care for and improve self-management of patients with multiple comorbidities.

Let's work together:

Please contact **Ashley Chory**, Research Program Manager at the Arhold Institute for Global Health, to start a conversation at ashley.chory@mssm.edu

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