

ANNUAL IMPACT REPORT 2020



Icahn
School of
Medicine at
Mount
Sinai

*Arnhold Institute
for Global Health*

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Designed by David Rojas-Leon at the Design + Informatics team, Arnhold Institute for Global Health and Global Health Department at Mount Sinai.

Photography: AMPATH, Arnhold Institute for Global Health, Claudia Paul Productions LLC, Community Health Impact Coalition, Mount Sinai Marketing and Communications, Personal Archives, Pexels.com, Possible Health, and USA Today.

Meet our Chair and Director: Dr. Rachel Vreeman



From The Chair And Director

Dear colleagues,

How to describe a year like 2020? It has brought tremendous tragedy and challenges. While I have learned to wrestle every year with the incomprehensible annual totals of ~1 million deaths from HIV, I cannot wrap my brain fully around the tragedy of losing 1.6 million more people to a new, deadly virus this year. It is impossible to grasp the full toll of human lives lost and the economic and social cleavages that have occurred. We will all be forever changed by this period in ways we are only beginning to understand. Amidst tremendous uncertainty, some things have become clearer than ever: the world needs strong public health systems, global collaboration, and access to health care and health for all.

In this year that brought so many challenges, I am so very grateful for and proud of our team at the Arnhold Institute for Global Health and our partners who rose to these challenges and surpassed them—serving as frontline COVID-19 clinicians, pivoting and expanding their research and our partnerships to meet urgent needs, and working long hours amidst increasing personal and familial demands to fulfill our mission.

In March, I was confirmed as the Chair of the Department of Global Health and Director of the Arnhold Institute for Global Health. At the end of March, while working remotely, we launched the CURE-19 partnership with the Global Health Institute at the NYC Health and Hospitals and Elmhurst Hospital. This partnership focused on developing COVID-19 research in collaboration with the communities in Queens that were hardest hit by COVID-19. Our new partnership has already resulted in 8 studies and 2 publications, with much more to come in 2021. I am so proud of how this group has sought to provide rapid answers to clinical problems, while building collaborations across Mount Sinai, Elmhurst and Queens Hospital, throughout the H+H system, and into the community.

We launched a “COVID-19 and Global Health” webinar series, “What Must We Do Now” and welcomed over 30 guest speakers and reached thousands of audience members. This monthly series will continue in 2021. We moved forward a stunning series of public service announcements via social media focused on COVID-19 prevention, and developed materials for critical health education in collaboration with adolescents at the Mount Sinai Adolescent Health Center and the Rafiki Clinic for adolescents in Eldoret, Kenya.

Throughout this year, our partners have shared the unique, and often urgent, needs that their community members were experiencing, and we adapted our programming accordingly. In Kenya, we changed the way we communicated with adolescents living with HIV/AIDS and distributed their medications. We have, and continue to, fundraise to meet their emergency needs for food, housing and PPE. We have also launched four different studies following the impact of COVID-19 on adolescents and community members in Kenya. In Nepal, we have deepened our partnership with Kathmandu University and Dhulikhel Hospital. We formalized our partnership in Navrongo, Ghana and convened a range of stakeholders from Mount Sinai engaged in work in Ghana. We look forward to expanding upon these foundations in 2021.

After the murders of George Floyd, Ahmaud Arbery, Breonna Taylor and so many more Black people who died at the hands of police in this year alone, we felt compelled to take a hard look at ourselves and ensure that we did everything within our power to make our department and ourselves as anti-racist as possible. Our ongoing Task Force on Anti-Racism has a mandate to review our policies, procedures and practices and make recommendations.

This year, we welcomed Dr. Anya Romanoff, a breast surgeon-researcher focused on improving global breast oncology care and David Plater as our new Director of Operations and Global Partnerships. We have also expanded our Department through a number of secondary faculty appointments and launched several key recruiting processes. Many of our faculty have experienced significant professional growth this year—**we have had a 170% increase in grant funds awarded this year as compared with 2019!** As we look towards 2021, we are excited to continue growing our department and to deepen and expand our impact.

I know that, in many ways, the COVID-19 challenges and systemic inequities that it has exacerbated are only beginning to be addressed. We hope that the Arnhold Institute for Global Health will have the opportunity to continue this important work with you next year.

I wish you a healthy, safe and happy 2021!

Warmly,



Dr. Rachel Vreeman, MD, MS

Chair, Department of Global Health

Director, Arnhold Institute for Global Health

Our Vision

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*Better global partnerships
building a healthier world for all.*

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Our Mission

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Mount Sinai's Arnhold Institute for Global Health seeks to build deeper, more effective, and innovative global academic partnerships. Through stronger partnerships, we can build stronger, resilient health systems that provide quality care to our world's most vulnerable people.

We do this by unlocking the diverse pool of knowledge, expertise, and resources found in our academic and health system partners to strengthen healthcare delivery systems that are then able to understand, adapt, and grow to meet the health needs of the communities and populations our partners serve. We work across our tripartite mission to **deliver high quality care**, to **educate healthcare providers**, and **improve care through research**.

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Our Values



Integrity



Impact



Justice

“Amidst tremendous uncertainty, some things have become clearer than ever: the world needs strong public health systems, global collaboration and access for all to health care and health. In this year that brought so many challenges, I must express my deep gratitude and pride in my team and our partners who rose to these challenges and surpassed them.”

Dr. Rachel Vreeman



2020 ACCOMPLISHMENTS

CARE



15+
Global
Partnerships



Through our research
partnerships, faculty
are supporting

51,922
Community Health
Workers

Community Health Impact Coalition

Dr. Madeleine Ballard



Through her leadership of the Community Health Impact Coalition (CHIC), Dr. Madeleine Ballard, Assistant Professor with the Department of Global Health, led the development of community health worker clinical protocols for global COVID-19 management, including adapting existing protocols to the COVID-19 context and adding COVID-19 activities to community health workers' responsibilities through CHIC community health organizations in 20+ countries. In 2020, CHIC received \$10 million dollars from Direct Relief and aims to raise \$100 million to supply one year's worth of PPE for 1 million community health workers across 24 African countries.

EDUCATION

Given the constraints of COVID-19, we successfully pivoted from supervising medical students and residents in global health work requiring travel to global health opportunities they could participate in from wherever they were. We also created global health opportunities for additional students within our global partnerships.

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10

total number of
medical students
and fellows in 2020
research program

“I was able to work closely with a fellow MS2 and Dr. David Heller this summer to analyze interviews with community members in which they described their perceptions of cardiovascular disease, its prognosis, and its treatment. Although we were unable to travel to Navrongo, Ghana due to COVID-19, we analyzed data that had been collected during previous trips, and we were able to use the wonders of ZOOM to connect with colleagues in Ghana to discuss our findings. Zoom allowed us to connect with colleagues in Ghana while our PI, Dr. Heller looped us in on calls with his mentors - allowing us to collaborate more easily and get feedback from researchers in different disciplines including nurses, MDs and clinical staff.”

Isla Hutchinson
Maddox

MD Candidate '23



“Working with Dr. Maru and Khadija Jones was a wonderful experience! Not only did I learn a great deal about different steps of the clinical research process and how to write an abstract and manuscript, but I also got a better sense of the research I’d like to pursue in the future and what specialties I’m more interested in. I really loved getting to know everyone on the team and working closely with such an incredible group of people!”

Stephanie Wu
MD Candidate '23

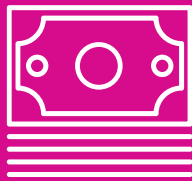


“Through my experience growing up in a low-income, Afro-Brazilian immigrant family, I AM VERY FAMILIAR WITH the influence of foreign cultures and language on health literacy and sought an immersive experience to employ my passion for equity in a global health setting. My summer global health fellowship allowed me to augment my clinical research skills, particularly around resource mobilization in existing infrastructures and using qualitative analyses to develop person-centered care models, as I consider a potential career in global health surgery. I enjoyed learning from and collaborating with Dr. Maru and others within the department in their efforts to tackle existing barriers to reproductive healthcare, as well as the unique opportunity for mentorship.”

Jennifer Dias
MD Candidate '23



RESEARCH



170%

increase in extramural grant funds
awarded in 2020 as compared with 2019



40

peer-reviewed publications



22

active IRB protocols



16

primary and secondary faculty and 2 adjunct
faculty engaging in global health research
partnerships



GLOBAL HEALTH: SCIENCE AND PRACTICE

Dedicated to what works in global health programs



ORIGINAL ARTICLE

Costing Analysis of a Pilot Community Health Worker Program in Rural Nepal

Prajwol Nepal,^{a,*} Ryan Schwarz,^{a,b,c,d,*} David Citrin,^{a,e,f,g,h} Aradhana Thapa,ⁱ Bibhav Acharya,^{a,i} Yubraj Acharya,^k Anu Aryal,ⁱ Aaron Baum,^h Ved Bhandari,ⁱ Laxman Bhatt,ⁱ Dipak Bhattarai,ⁱ Nandini Choudhury,^{a,h} Binod Dangal,ⁱ Meghnath Dhimal,ⁱ Santosh Kumar Dhungana,ⁱ Bikash Gauchan,^{i,m} Scott Halliday,^{a,e,f,g} SP Kalaunee,^{i,n} Lal Bahadur Kunwar,ⁱ Duncan Maru,^{a,h,o,p,q} Isha Nirola,^{a,r} Rashmi Paudel,ⁱ Anant Raut,^a Hari Jung Rayamazi,ⁱ Sabitri Sapkota,ⁱ Dan Schwarz,^{a,b,c,s,t} Poshan Thapa,^u Pratistha Thapa,ⁱ Apama Tiwari,ⁱ Roshani Tuitui,^v Eric Walter,^{w,x} Sheela Maru^{a,h,o,y}

JAMA Network™

June 5, 2020

Admissions to Veterans Affairs Hospitals for Emergency Conditions During the COVID-19 Pandemic

Aaron Baum, PhD¹; Mark D. Schwartz, MD²

» Author Affiliations | Article Information

JAMA. 2020;324(1):96-99. doi:10.1001/jama.2020.9972



COVID-19 Resource Center

Peer Reviewed Publications by Dr. Sheela Maru and Dr. Aaron Baum

Welcome to Dr. Anya Romanoff

Dr. Anya Romanoff is a breast surgeon and researcher who focuses on improving breast cancer care in resource-limited settings. Dr. Romanoff earned her medical degree from the New York University School of Medicine and completed General Surgery Residency at the Icahn School of Medicine at Mount Sinai. During residency, she was awarded a Fulbright-Fogarty Postdoctoral Research Award in Public Health, which she used to investigate access to breast cancer care in Peru. She then went on to pursue a fellowship in Breast Surgical Oncology at Memorial Sloan Kettering Cancer Center, where she became involved in the African Research Group for Oncology, a National Cancer Institute, recognized consortium dedicated to improving cancer care in Nigeria.

Dr. Romanoff is an Assistant Professor in the Department of Global Health and an affiliated Global Cancer Disparities Researcher in the Department of Surgery at Memorial Sloan Kettering Cancer Center. Dr. Romanoff collaborates with clinician-researchers in Nigeria and other low- and middle-income countries to implement strategies promoting the early detection of breast cancer and access to effective treatment, with the ultimate goal of improving breast cancer outcomes globally.

Dr. Anya Romanoff



Dr. Aaron Baum's Research

Dr. Aaron Baum has been an assistant professor in the Department of Global Health since 2016 and studies the social and organizational determinants of common medical conditions, such as hypertension and depression in the United States context and child malnutrition in global settings. In a study published in the *Journal of the American Medical Association* in July 2020, Dr. Baum and colleagues used econometric modeling to demonstrate that the zip code where someone lives substantially affects their risks of high blood pressure and experiencing symptoms of depression. In articles published during 2020 by the *Journal of the American Medical Association*, the *Annals of Internal Medicine*, *Health Affairs*, and the *Harvard Medical School Center for Primary Care*, Dr. Baum and colleagues

documented large declines in emergency and routine care visits during the COVID-19 pandemic, as well as ways that telehealth and population health management approaches aided primary care practices in responding to the crisis. In Haiti, Dr. Baum is leading the evaluation of an \$18 million United States Agency for International Affairs project, "Community-based Action to Improve Nutrition and Health". This is led by the largest microfinance institution in the country, *Fonkoze*.



Dr. Aaron Baum

COVID-19 RESPONSE



Across our global partnerships, we have expanded existing efforts and initiated new work to respond to the COVID-19 pandemic.

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

In response to the COVID-19 pandemic in the spring of 2020 the Arnhold Institute and Department of Global Health established the CURE-19 partnership with Elmhurst Hospital's Global Health Institute. This partnership expands our work with "local-global" partners in New York to allow a rapid refocusing to address one of the largest early burdens of COVID-19 in the world. This year, CURE-19 produced 8 initial research studies to help rapidly translate the experience, data, and lessons from the public system into scalable innovations to address COVID-19. In the long-term, this partnership will help address the root causes of health disparities, generate evidence about long-term impacts of COVID-19 and implement systems to provide better care for pregnant women and their newborns. This work will lead to policy and practice change in the New York City Health and Hospital system and with our global partners.

PLOS ONE

RESEARCH ARTICLE

Universal screening for SARS-CoV-2 infection among pregnant women at Elmhurst Hospital Center, Queens, New York

Sheela Maru^{1,2,3,*}, Uday Pati^{3,4}, Rachel Carroll-Bennett^{2,3}, Aaron Baum¹, Tracy Bohn-Hemmerdinger^{2,3}, Andrew Ditchik^{2,3}, Michael L. Scanlon¹, Parvathy Krishnan^{3,4}, Kelly Bogaert^{2,3}, Carson Woodbury^{2,3}, Duncan Maru^{1,3,4,5}, Lawrence Noble^{3,4}, Randi Wasserman^{3,4}, Barry Brown^{2,3}, Rachel Vreeman¹, Joseph Masci^{3,5}

1 Department of Health System Design and Global Health and the Arnhold Institute for Global Health, Icahn School of Medicine at Mount Sinai, New York City, NY, United States of America, **2** Department of Obstetrics, Gynecology and Reproductive Science at the Icahn School of Medicine at Mount Sinai, New York City, NY, United States of America, **3** New York City Health + Hospitals/Elmhurst, New York City, NY, United States of America, **4** Department of Pediatrics, Icahn School of Medicine at Mount Sinai, New York City, NY, United States of America, **5** Department of Medicine, Icahn School of Medicine at Mount Sinai, New York City, NY, United States of America

* Sheela.Maru@mssm.edu



Expanding COVID-19 care for adolescents living with HIV in Kenya

In Kenya, where we support an adolescent health initiative serving close to 8,000 adolescents living with HIV, we quickly pivoted our research work to understand and better address their clinical needs. We received a grant from the National Institute for Allergy and Infectious Diseases (NIAID) to better understand the impact of COVID-19 infections and the secondary impact of the pandemic among a cohort of 400+ Kenyan youth living with HIV. We conducted surveys of the impact of COVID-19 for an additional adolescent cohort of 400+ adolescents across three clinical sites and among primary and secondary school teachers. We collaboratively developed COVID-19 focused public service announcements with youth from the adolescent clinics in both Kenya and New York and applied for additional NIH funding to combat COVID misinformation and increase healthy behaviors related to COVID-19 and HIV.

Improving COVID-19 Vaccine Confidence among Healthcare Workers

Given that healthcare workers will be among the first groups to receive vaccines following approval and their highly influential role with patients and in their communities, we have research underway to better understand their beliefs and develop education campaigns around our findings and research on COVID-19 vaccines. We are working with partners across Mount Sinai, Elmhurst, Queens, NYC H+H and the State Department of Health to develop interventions to improve vaccine confidence, particularly for community-facing healthcare workers such as community health workers, home health aides, and doulas.

Expanding NYC pediatric HIV work

In line with our efforts to link global and local learning, we launched collaborative work involving pediatric HIV care in NYC. In collaboration with Dr. Roberto Posada, Dr. Vreeman is conducting a study to evaluate the current health status, knowledge of COVID-19, and how COVID-19 has impacted the current socio-economic situation, health care, and health behaviors of adolescents and young adults living with HIV and receiving care in the pediatric and young adult HIV program at Mount Sinai's Jack Martin Fund Clinic.

COVID-19 Public Outreach

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@MASKEDDIVA
#STAYHOME #DEFEAT
#WEARAMASK #PHYSICIAN
#MASKCHALLENGE

Launched “COVID-19 and Global Health: What Must We Do Now?”

This remote webinar series has featured 15 panel discussions to date highlighting Mount Sinai’s efforts in combatting COVID-19 in New York and with our global partners. On average, the series attracted 75-100 live participants along with more than a thousand YouTube post-webinar views.



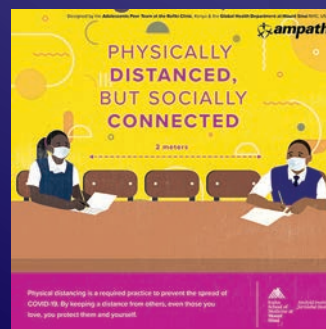
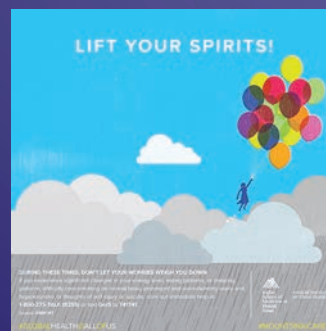
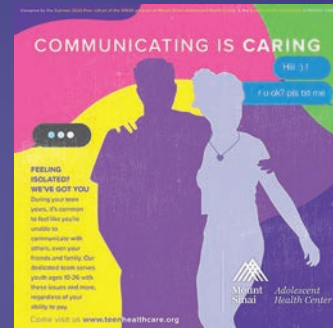
View series recordings:

<https://www.youtube.com/playlist?list=PLCT7BA-HcHlh8wOWETJVuAfTopAocHrpa>


Development of Public Service Announcements

In partnership with the Mount Sinai Adolescent Health Center and their Sinai Peers Encouraging Empowerment through Knowledge (SPEEK) program, the Arnhold Institute's Design and Informatics Core developed a series of COVID-19 public service announcements (PSAs) to promote social distancing and other preventative measures as part of a wide-ranging social media campaign. To date, this campaign has reached approximately 24.5K people. A series of PSAs were developed in collaboration with the peer support groups for adolescents living with HIV at the Rafiki Clinic, in Eldoret, Kenya.





ANTI-RACISM TASK FORCE AND DE-COLONIZING GLOBAL HEALTH



In many ways, 2020 was a reminder of the significant work that is needed to end systemic racism both as a barrier to fulfilling our academic mission, our commitment to justice, and our goal of improving health for all. The murders of George Floyd, Ahmaud Arbery, and Breonna Taylor, among others, at the hands of police reignited our long national conversation about the impacts of systemic racism. Combined with the disproportionate impact of COVID-19 on Black people, our Department and Institute were compelled to act to address the global public health threat of systemic racism.

Early in the year, we began a series of facilitated dialogues focusing on race and colonialism in global health. These included a series of seminars with global health thought leaders like Drs. Rhea Boyd and Dr. Judy Wachira as well as internally focused discussions to identify and begin addressing racist and colonial structures in our Department and Institute. In addition to these dialogues and self-reflection, we agreed to support the Student National Medical Association's (Icahn School of Medicine Chapter) proposed actions to address anti-blackness and racism at Mount Sinai and in the broader medical community.

We established an Anti-Racism Task Force to review the policies and practices of our Department and Institute and recommend a plan of action for our team to address systemic racism. The Task Force co-led by Dr. Madeleine Ballard and Ky-Shana Urie engaged our faculty and staff in a participatory dialogue to identify key challenges and an initial strategy to guide our ongoing efforts to address systemic racism and the legacy of colonialism in global health. The work of the Task Force will continue in 2021 as we continue to work to realize our commitment to justice, anti-racism, and decolonization.

Arnhold Institute for Global Health Anti-Racist Statement:

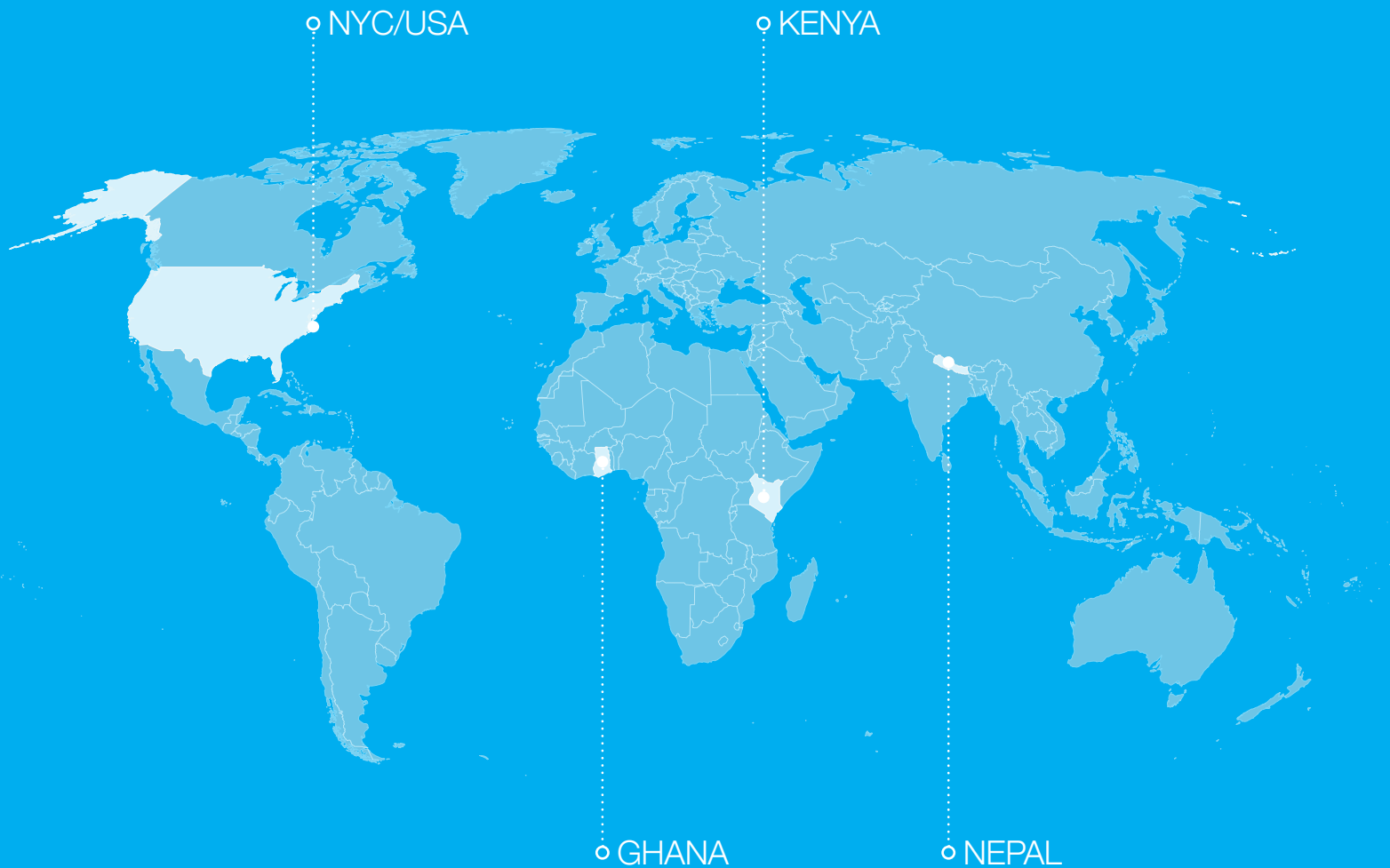
The Department of Global Health and Arnhold Institute for Global Health (AIGH) recognizes the long-standing prevalence and impact of systemic racism and discrimination in society as a global health emergency. As global health leaders, we are committed to confronting and dismantling discrimination in the workplace. Our Department and Institute is actively working towards becoming a more just, inclusive, and anti-racist department, and global partner.

We are especially committed to strengthening opportunities for underrepresented groups in the sciences and global health and encourages all well qualified candidates to apply, particularly women, transgender individuals, racial and ethnic minorities, and other underrepresented groups.

We are committed to the principle of equal employment opportunity for all regardless of race and ethnicity, gender, gender identity, sexual orientation, religion, ability, age, or any other status protected by the laws or regulations in the locations where we operate. All employment decisions are based on business needs, job requirements and individual qualifications, without regard to any protected status or personal characteristic. We do not tolerate discrimination or harassment based on any of these characteristics.

STRATEGIC GLOBAL PARTNERSHIPS

We are investing in 4 strategic partnerships to improve care for the world's most vulnerable people in Ghana, Kenya, Nepal, and New York.



We envision better global partnerships that build a healthier world for all.

Mount Sinai's Arnhold Institute for Global Health seeks to build deeper, more effective, and innovative global academic partnerships. Our partnerships with local academic medical centers and health systems serve as the platforms for innovation, where solutions to global health problems are developed, evaluated and launched on a path for governments to take those innovations to scale for broad health impact. Through stronger partnerships we can build stronger, resilient health systems that provide quality care to our world's most vulnerable people.

We do this by unlocking the diverse pool of knowledge, expertise, and resources found in our academic and health system partners to strengthen healthcare delivery systems that are able to understand, adapt, and grow to meet the health needs of the communities and populations our partners serve. We work across our tripartite mission to deliver high quality care, to educate healthcare providers, and improve care through research.

Who We Serve

Our focus is on improving the health of the world's most vulnerable people. Each of our partnerships include a primary health system and academic partner committed to providing care to communities that are the most in need in Ghana, Kenya, Nepal, and New York. Each of our partnerships include health system partners that provide care to catchment areas of 1 million or more people. In total, our partner network is responsible for caring for more than 12.5 million people worldwide. Our patient populations encompass both rural and urban patients many of whom survive on less than \$2 per day.

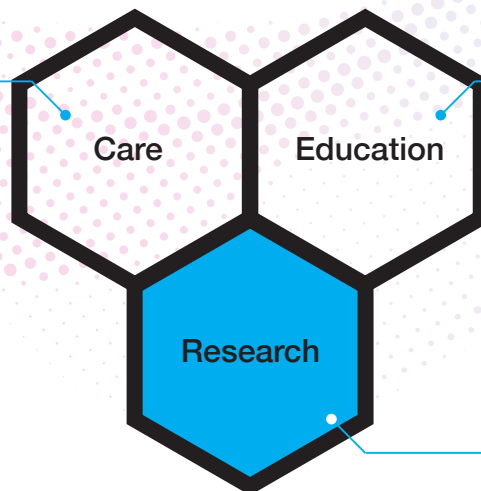
Together with our health system and academic partners, we work to improve population health by empowering individuals and communities to be able to access affordable healthcare where they live. We work to improve population health by empowering individuals and communities to be able to access affordable healthcare where they live.

“Lead with care; then do more.”

Our Partnership Model

We believe that global academic medical partnerships can leverage their unique strengths to advance care, education, and research.

Deliver comprehensive and preventative **CARE** through a sustainable health system that reduces disparities.



EDUCATE medical students, residents, community health workers, and more to shape tomorrow's health leaders – and mutually strengthen institutions.

Generate evidence and push for **RESEARCH** breakthroughs in health, policy, and justice for people all over the world.

Our Partners' Priorities

We work closely with our partners in Ghana, Kenya, Nepal, and New York to identify priority areas of focus that are directly relevant to the health challenges their patients face. Our key partner priorities include:



In rural **Ghana**, we train **community health workers** to expand care access to people living with chronic conditions like **hypertension, depression, and other non-communicable diseases**.



In **Kenya**, we are strengthening clinical services for **adolescents living with HIV/AIDS** by training peer counselors to help increase medication adherence, support better mental health, and decrease social stigma. We employ digital strategies to prevent and mitigate the impact of HIV, COVID-19, tuberculosis, and mental health challenges of adolescents.



In **Nepal**, we **decrease maternal and child mortality** through improvements to comprehensive care and behavior change programs led by **community health workers**.



In **Queens, New York** we are strengthening capacity of frontline health care workers to apply **implementation science to treat COVID-19 and its long-term impacts** and develop a program to support **vaccine confidence and combat the spread of health misinformation**.

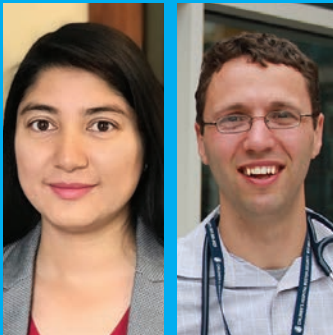
Our Partners' Remarks



Dr. Rachel Vreeman and
Dr. Edith Apondi
AMPATH Adolescent Health
Co-Leads

WESTERN KENYA: Advancing Adolescent HIV/AIDS Care

“Together, we are improving the care of adolescents. We want the most vulnerable youth living with HIV to know that this is not the end of their story.”



Dr. Archana Shrestha and
Dr. Duncan Maru
Nepal Partnership Co-Leads

DHULIKHEL, NEPAL: Transforming rural community health

“Together, we dream of a world where no baby dies for lack of access to proven treatments. Health as a human right goes beyond political declarations--innovation, evidence, and training are essential to translating policy to care delivery.”



**Dr. Raymond Aborigo and
Dr. David Heller**
Ghana Partnership Co-Leads

NAVRONGO, GHANA: Expanding the workforce and delivery of care for chronic conditions

*“Together, we hope to expand access to
care for chronic conditions across rural
Ghana”*



**Dr. Sheela Maru and
Dr. Joseph Masci**
CURE-19 Co-Leads

QUEENS, NEW YORK: Conducting COVID-19 research in the epicenter of the epicenter

*“Together, we are building a partnership
to better understand and serve globally
diverse and vulnerable populations—
and to be better prepared for the next
pandemic.”*



Icahn
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**Arnhold Institute for Global Health
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