HIV and COVID-19: Lessons learned for interconnected epidemics

June 24, 1-4pm
HIV and COVID-19: Lessons learned for interconnected epidemics
Thursday, June 24, 1pm-4pm EST

Opening Remarks: Dr. Rajesh Gandhi, HU CFAR Co-Director

AGENDA

1:00pm -1:20pm
Basic Science Opening Plenary
Dr. Penny Moore- “Assessing Immune Responses to SARS-CoV-2 Beta in South Africa”

1:20pm – 1:40pm
Session 1 -Basic Science Perspectives – ESI Talks
• Dr. Katy Stephenson, BIDMC- “Repurposing Ad26 for COVID vaccine development and immune correlates of protection”
• Dr. Johannes Scheid, MGH- “Leveraging B cell technologies developed for HIV to identify a broadly neutralizing antibody for SARS-CoV-2”

1:40pm – 2:00pm - Basic Science Perspectives Panel & Discussion
Dr. Penny Moore, Dr. Gaurav Gaiha, Dr. Jon Li, Dr. Boris Juelg, Dr. Katy Stephenson, Dr. Johannes Scheid

2:00pm – 2:30pm
Session 2 – Community Research Perspectives - ESI Talks
• Dr. Julian Adong, MUST- “Pandemic-related disruptions in HIV care among adolescents and young adults with HIV (AYAWH) and the potential for mHealth interventions”
• Dr. Jana Jarolimova, MGH- “Stigma and medical mistrust related to COVID-19 among people living with HIV in South Africa”
• Dr. Jackie Chu, MGH- “Barriers to Equitable Care in HIV and COVID in Chelsea”

2:30pm – 2:50pm Community Research Panel & Discussion
Dr. Demetre Daskalakis, Dr. Emily Hyle, Dr. Abigail Batchelder, Dr. Julian Adong, Dr. Jana Jarolimova, Dr. Jackie Chu

2:50pm – 3:20pm
Session 3 - Clinical Research Perspectives – ESI Talks
• Dr. Jennifer Manne-Goehler, MGH/BWH- “Artificial Intelligence to Assess Metabolic Risk in COVID-19 & HIV Infection”
• Dr. Shibani Mukerji, MGH- “Neurological Sequelae in People with HIV and COVID-19”
• Dr. Lakshmi Ganapathi, Boston Children’s- “Young and (even more) invisible in the COVID-19 pandemic: Service delivery needs of young people who inject drugs in India”

3:20-3:40 - Clinical Science Perspectives Panel & Discussion
Dr. Demetre Daskalakis, Dr. Emily Hyle, Dr. Rebecca Zash, Dr. Jennifer Manne-Goehler, Dr. Shibani Mukerji, Dr. Lakshmi Ganapathi

3:40 – 4:00pm
Community and Clinical Research Perspectives Closing Plenary
Dr. Demetre Daskalakis- “CDC’s HIV Priorities for EHE in 2021 and Beyond”

Closing Remarks: Dr. Galit Alter, HU CFAR Co-Director
Gaurav D. Gaiha, MD, DPhil is an Assistant Professor of Medicine at Harvard Medical School and Attending Physician in the Division of Gastroenterology at Massachusetts General Hospital (MGH). Dr. Gaiha's lab focuses on understanding the T cell response to viral diseases and GI cancer and translating these findings to drive rationally-designed vaccines and treatments. A key component of the Gaiha lab's effort is structure-based network analysis - a novel methodology that integrates protein structure data and network theory to identify regions within pathogens that are resistant to mutation. Using this approach, Dr. Gaiha identified specific features of T cell targeting in individuals who spontaneously control HIV in the absence of therapy (Gaiha et al., Science 2019). These results are being used to drive rational design of prophylactic and therapeutic vaccines for HIV. The lab also applied this approach to SARS-CoV-2 to identify mutationally constrained T cell epitopes to mitigate against emerging variants and sarbecoviruses (Nathan, Rossin et al., Cell In Press). In collaboration with industry partners, Dr. Gaiha is exploring a range of vaccine modalities to induce robust tissue-resident and systemic T cell immunity towards these specific targets.

Emily Hyle, MD, MSc is an attending physician in the Division of Infectious Diseases and the Jerome and Celia Reich Endowed Scholar in HIV/AIDS Research at the Massachusetts General Hospital and an Assistant Professor of Medicine at Harvard Medical School. As a practicing physician, she provides clinical care for people with HIV and other infectious diseases. She is a member of the internationally recognized Cost-effectiveness of Preventing AIDS Complications (CEPAC) research team, and her research focuses on using simulation modeling and cost-effectiveness analysis to investigate clinical and public health interventions for people with HIV. Dr. Hyle has led and contributed to model-based analyses that include studies on HIV drug resistance, laboratory monitoring, point-of-care testing, loss to follow-up, and non-communicable co-morbidities, as well as diagnostic testing approaches to address the COVID-19 pandemic. Her research has been cited in the Department of Health and Human Services (DHHS) Guidelines since 2014 and in the 2016 World Health Organization (WHO) Guidelines for the clinical care of adults with HIV. She was a member of the WHO Guidelines Development Group for the Guidelines on the Public Health Response to HIV Drug Resistance Testing and is currently a member of the DHHS Panel on Antiretroviral Guidelines for Adults and Adolescents. She is Affiliate Faculty with the Harvard University CFAR Developmental and Mentoring Core.
(Keynote Speaker)

Assessing Immune Responses to SARS-CoV-2 Beta in South Africa

Penny Moore, PhD is the South African Research Chair of Virus-Host Dynamics and Reader / Associate Professor at the University of the Witwatersrand and the National Institute for Communicable Diseases (NICD). She holds a joint appointment as CAPRISA Honorary Senior Scientist in Virus-Host Dynamics at the Centre for the AIDS Programme of Research (CAPRISA), University of KwaZulu-Natal and is Adjunct Member of the Institute of Infectious Disease and Molecular Medicine (IDM) at the University of Cape Town. She co-directs a team of more than 15 scientists and 10 postgraduate students who work in the field of HIV vaccine discovery, combining Virology and Immunology. Her research is currently funded by the NIH, the SA Medical Research Council, the International AIDS Vaccine Initiative and the SA National Research Foundation. In the past 15 years that she has worked in the HIV field she has contributed towards more than 100 papers, focusing predominantly on HIV neutralizing antibodies and their interplay with the evolving virus, a result of extensive collaborations within South Africa and internationally. She has extensive experience with sequencing and analysis of HIV glycoproteins, measuring neutralizing antibodies antibody responses and the isolation and characterization of monoclonal antibodies to HIV antigens. More recently, with the emergence of SARS-CoV-2, her team has redeployed many of these platforms and technologies, developing tools to measure humoral immune responses to SARS-CoV-2 infection and vaccination and also to isolate South African SARS-CoV-2-directed mAbs.

(Keynote Speaker)

CDC’s HIV Priorities for EHE in 2021 and Beyond

Demetre Daskalakis, MD, MPH is the Director of the Center for Disease Control and Prevention’s Division of HIV/AIDS Prevention. He began his career as an attending physician at Bellevue Hospital in NYC where he spearheaded several public health programs focused on community HIV testing and prevention. Since, he served in a number of capacities in both healthcare and public health in NYC. Most recently, he served as the Deputy Commissioner for the Division of Disease Control at the NYC Department of Health and Mental Hygiene. Dr. Daskalakis directed the public health laboratory and all infectious disease control programs for NYC, including HIV, tuberculosis, sexually transmitted infections, vaccine-preventable diseases, and general communicable diseases. In addition to his leadership in daily infectious disease control efforts, he has served as the NYC Department of Health and Mental Hygiene incident commander during the measles outbreak of 2018-2019, as well as the current COVID-19 public health emergency since January 2020. Dr. Daskalakis grew up in Arlington, Virginia. He received his medical education from the NYU School of Medicine and completed his residency training at Beth Israel Deaconess Medical Center in Boston. He completed clinical infectious disease fellowships at the Brigham and Women's Massachusetts General Hospital combined program and received a Master of Public Health from the Harvard T.H. Chan School of Public Health. He has authored or co-authored more than 50 scholarly articles and has received numerous awards for his scientific and public health contributions, including
the Treatment Action Group Research in Action Award, the Latino Commission on AIDS Esperanza Award, the GMHC Hector Xtravagnza Xcellence Award, and the World AIDS Day awards from both New York City and New York State. He is a prominent voice for the LGBTQIA+ community by the New York Times, City and State, Out magazine, Metrosource, and Paper magazine. Dr. Daskalakis seeks to improve the health of underserved communities and is passionate about addressing health equity; he is an expert in HIV prevention who focused much of his career on the treatment and prevention of HIV and other STIs as an activist physician with a focus on LGBTQIA+ communities. Dr. Daskalakis joined the CDC as the Director of the Division of HIV/AIDS Prevention in December 2020 and assumed the role of Senior Lead, Equity in COVID-19 Data and Engagement in the CDC response to the pandemic.

**Repurposing Ad26 for COVID vaccine development and immune correlates of protection**

Kathryn E. Stephenson, MD, MPH is a physician-scientist in the Center for Virology and Vaccine Research (CVVR) and the Division of Infectious Diseases at Beth Israel Deaconess Medical Center (BIDMC) in Boston, Massachusetts. She is also an Assistant Professor of Medicine at Harvard Medical School. She has expertise in conducting phase 1 clinical trials testing novel immunologic interventions for HIV and emerging infectious diseases like SARS-CoV-2 and Zika virus. During the COVID-19 pandemic, she was the site Principal Investigator for the first-in-human trial of the Johnson & Johnson/Janssen Ad26.COV2.S COVID-19 vaccine, as well as for the Phase 3 efficacy trials of remdesivir, Novavax vaccine, and casirivimab and imdevimab monoclonal antibodies. She is currently the protocol co-chair of CoVPN 3006, the largest federally-funded study to test whether the Moderna COVID-19 vaccine can block SARS-CoV-2 transmission. This COVID-19 work complements her previous contributions in testing a mosaic Ad26-based HIV vaccine and broadly neutralizing antibodies for HIV prevention, treatment and remission. In addition, Dr. Stephenson is an outspoken advocate for increasing research equity for Black and Latinx populations in clinical trials, and is committed to ensuring access to promising medicines and vaccines for our most vulnerable communities. Dr. Stephenson received her medical degree from New York University, and completed her internal medicine training at Columbia NY Presbyterian Hospital, followed by infectious diseases training at Mass General Brigham. She also obtained a Masters in Public Health from Columbia University where she focused on the ethics of clinical trials, isolation and quarantine.

**Leveraging B cell technologies developed for HIV to identify a broadly neutralizing antibody for SARS-CoV-2**

Johannes Scheid, MD, PhD is a physician scientist trained in Germany and the U.S. He has an extensive background in Immunology, antibody research and Gastroenterology. Dr. Scheid has discovered and clinically developed highly potent therapeutic antibodies against HIV, discovered cross-neutralizing coronavirus antibodies and harnessed his clinical training in Gastroenterology to investigate the relationship between antibodies and the microbiome.
Pandemic-related disruptions in HIV care among adolescents and young adults with HIV (AYAWH) and the potential for mHealth interventions

Julian Adong MBChB, MMed is a pediatrician and researcher working in Mbarara, Uganda. Her research is focused on improving clinical care and outcomes for adolescents and young people with HIV in sub-Saharan Africa. She was recently awarded a Harvard University Center for AIDS Research developmental core grant to carry out research on HIV care disruptions among adolescents and young adults with HIV during the COVID-19 pandemic and to examine mHealth alternatives to augment in-person HIV care services in this population.

Stigma and medical mistrust related to COVID-19 among people living with HIV in South Africa

Jana Jarolimova MD, MPH is a physician in Infectious Diseases at Massachusetts General Hospital and an Instructor in Medicine at Harvard Medical School. Her research is broadly focused on the implementation of improved diagnosis and management pathways for curable sexually transmitted infections within the context of HIV prevention and care.

Barriers to Equitable Care in HIV and COVID in Chelsea

Jackie Chu, MD is an infectious diseases and primary care physician at Massachusetts General Hospital (MGH) and MGH Chelsea. Her particular area of interest is caring for people living with HIV, and she is the Medical Director of the ZPAR (“Z” or HIV Patients at Risk) program, an intensive case management program funded by HRSA’s Ryan White HIV/AIDS Program. Additionally, during the COVID pandemic, she has been the Co-Medical Director of the Chelsea Respiratory Illness Clinic. She is interested in how social determinants of health can be mitigated through infrastructure, and in developing systematic solutions for disparities in care.

Artificial Intelligence (AI) To Assess Metabolic Risk in COVID-19 & HIV Infection

Jennifer Manne-Goehler, MD, ScD, ScM is an adult infectious diseases physician at the Brigham and Women’s Hospital and a faculty affiliate at the Medical Practice Evaluation Center at Massachusetts General Hospital. Dr. Manne-Goehler’s research interests lie at the intersection of HIV and metabolic disease. She serves as a co-investigator on the Health and Aging in Africa: A Longitudinal Study of an INDEPTH Community in South Africa (HAALSI) cohort study and is a co-founder of the Global Health + Population Project on Access to Care for Cardiometabolic diseases (HPACC). Her current projects include NIH-funded research on the prevention of metabolic disease in people with HIV in South Africa and use of artificial intelligence methods to improve evaluation of diabetes risk in this population. She is currently an advisor to the World Health Organization regarding their global diabetes strategy.
Neurological Sequelae in People with HIV and COVID-19

Shibani S. Mukerji, MD, PhD is the Associate Director of the Neurology Infectious Diseases Unit at Massachusetts General Hospital (MGH) and Assistant Professor of Neurology at Harvard Medical School. Dr. Mukerji trained in neurology and neurology-infectious diseases at MGH/Brigham and Women's Hospital residency and fellowship programs. Her K23-funded research focuses on computational methods to integrate patient-derived data including clinical, laboratory, neuroimaging, and metabolite profiling to identify biomarkers of depression in adults with HIV. She has led efforts to improve understanding of neurological manifestations of SARS-CoV-2 infection, including neuropathological and neuroradiographic manifestations of COVID-19. Dr. Mukerji is supported by the National Institutes of Health, Harvard Medical School Eleanor and Miles Shore Foundation and the James S. McDonnell Foundation.

Young and (even more) invisible in the COVID-19 pandemic: Service delivery needs of young people who inject drugs in India

Lakshmi Ganapathi, MBBS, FAAP is a clinician-investigator in the Division of Infectious Diseases at Boston Children's Hospital, where she is also the associate program director of the Pediatric Infectious Diseases Fellowship Training Program. She received her medical degree from the National University of Singapore. She was a medical officer in Pediatrics at K.K. Women's and Children's Hospital and the National University Hospital in Singapore for several years, while simultaneously being involved in global HIV research and advocacy initiatives with various non-governmental organizations in South and Southeast Asia. Lakshmi subsequently completed a general pediatrics residency at the Boston Combined Residency Program followed by Infectious Diseases fellowship at Boston Children's Hospital. Working with co-investigators at the non-profit Y.R. Gaitonde Center for AIDS Research and Education (YRG CARE) and The Johns Hopkins School of Medicine and Bloomberg School of Public Health, her current research is focused on understanding barriers to HIV and Hepatitis C prevention and treatment among adolescents and young adults in key populations in India.

OUR PANELISTS
(in order of appearance)

Jonathan (Jon) Li, MD, MMSc is an Associate Professor of Medicine at the Brigham and Women’s Hospital and Harvard Medical School. He leads an active clinical and translational laboratory research program focused on viral persistence, reservoirs and resistance, especially within the fields of HIV and COVID-19. Dr. Li is the Director of the Harvard/Brigham Virology Specialty Laboratory, the Director of the Harvard University Center for AIDS Research Clinical Core, a member of the AIDS Clinical Trials Group (ACTG) Executive Committee and a member of the NIH COVID-19 Treatment Guidelines Panel. He is the protocol co-Chair of the ACTG A5308 study of ART treatment for HIV-1 controllers, the co-Chair of the A5345 study of biomarkers of HIV rebound, and the protocol virologist
Boris D. Juelg, MD, PhD is an Assistant Professor of Medicine at Harvard Medical School and a physician in the Division of Infectious Diseases at Massachusetts General Hospital (MGH). He is a Member of the Ragon Institute of MGH, MIT and Harvard. Dr. Juelg aims to link preclinical and clinical studies to identify and test the most promising immunological strategies to prevent and treat infectious diseases. He is specifically interested in evaluating passive and active immunization approaches using broadly neutralizing antibodies and novel vaccine candidates. In close collaboration with other Harvard CFAR investigators, Dr. Juelg is conducting phase I/II clinical trials that are testing such concepts and translating findings from the lab into the clinic. He is a member of the AIDS Clinical Trials Group (ACTG) Cure Transformative Science Group (TSG) and serves as the associate director for the HU CFAR clinical core.

Abigail (Abby) Batchelder, MD, PhD is a clinical psychologist with a master’s degree in public health. She is an Assistant Professor in the Department of Psychiatry at Harvard School of Medicine (HMS), staff psychologist in the Psychology Department at Massachusetts General Hospital (MGH), an Affiliated Investigator at The Fenway Institute. Her NIDA-funded research focuses on understanding and intervening on psychological barriers to HIV treatment and prevention, including stigma and shame, among underserved people living with substance use and other stigmatized identities (e.g., being a sexual minority).

Rebecca Zash, MD is a member of the Division of Infectious Diseases at BIDMC and a Research Associate at the Harvard T.H. Chan School of Public Health. She graduated from the University Of North Carolina School Of Medicine and then completed residency and fellowship training at BIDMC. Prior to medical school, Dr. Zash helped to run an NGO to prevent mother-to-child transmission of HIV (PMTCT) in South Africa. She has pursued interest and research in HIV in pregnancy. During her fellowship, she lived in Botswana and ran several research studies evaluating the safety of antiretroviral therapy in pregnancy and infant outcomes. Her current research interests include understanding the mechanisms of adverse birth outcomes among HIV-infected women in Botswana and implementing drug-safety surveillance in pregnancy in resource-limited settings.

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