For hospitalized patients with fungal infections, *I.D. specialists save lives*

Bloodstream infections caused by the fungus Candida are among the most common and deadly infections in hospitals, with 25,000 such cases seen annually in the U.S. – mostly in people originally hospitalized for other reasons. About 40% to 45% of people with Candida in their blood die of the infection.

New research from Washington University School of Medicine in St. Louis shows that the death rate can be reduced by 20% if infectious disease specialists oversee care of such patients. Such specialists are more likely to follow evidence-based best practices for treating infections, which is likely why their patients do better, the researchers said. The findings, published Sept. 24 in *Lancet Infectious Diseases*, suggest that physicians should not hesitate to consult with infectious disease doctors if they suspect a fungal bloodstream infection.

"Candida infections are a major problem in hospitals large and small across the country," said senior author Andrej Spec, MD, an assistant professor of medicine and associate director of the university's Infectious Diseases Clinical Research Unit and director of the university's Invasive Fungal Infections Clinic. "Even uncomplicated versions of these infections are actually quite dangerous and require a detailed and well-thought out approach to make sure that people do well. Infectious disease doctors are the ones who have the expertise to best treat these infections."

Even in major medical centers, it has not been the standard of care to call in an infectious disease physician to help treat fungal bloodstream infections, said study co-author William G. Powderly, MD, the Dr. J. William Campbell Professor of Medicine at Washington University. "But our study indicates that bringing in a specialist to consult on such infections should be the standard of care. We're taking steps to adopt this protocol for our patients."

We are interested in your achievements, clinical and/or research activities, and other personal news since leaving Washington University School of Medicine. Please contact Susan Wightman at wightman.susan@wustl.edu with any information you would like to share. *Archived Division Newsletters*
Barbara L. Herwaldt, MD, MPH (CAPT, USPHS), a medical epidemiologist in the Parasitic Diseases Branch of the Division of Parasitic Diseases and Malaria, Center for Global Health (CGH), retired from the U.S. Public Health Service and CDC on August 1, after 30 years of vocational service.

In 1989, Barbara completed her fellowship in infectious diseases at Washington University School of Medicine and joined CDC’s Parasitic Diseases Branch, initially as an officer in the Epidemic Intelligence Service and thereafter as a medical epidemiologist. During her 30-year tenure at CDC, she applied her epidemiologic and clinical expertise to a broad spectrum of conditions, including a wide range of parasitic diseases, most notably, cyclosporiasis, babesiosis, and leishmaniasis. She is particularly passionate about leishmaniasis.

As part of the global Guinea worm eradication program, she participated in epidemiologic surveys in Pakistan, including in mountainous tribal areas. Barbara often traveled to South Sudan, where she served as a consultant during an epidemic of visceral leishmaniasis, helped assess nutritional status and all-cause mortality rates in four geographic regions, and participated in a strategic evaluation of US-subsidized relief efforts.

Barbara had leadership roles during complex U.S. foodborne outbreaks of cyclosporiasis almost every year since the mid-1990s. Barbara’s leadership facilitated identification of food vehicles of infection and their sources, which helped inform intervention measures and food-safety policies.

Barbara was instrumental in documenting the spread of tickborne Babesia microti in the Northeast and upper Midwest, in identifying several previously unrecognized zoonotic Babesia agents, and in documenting the US burden of transfusion-associated babesiosis. Her findings are informing the implementation of blood-donor screening for evidence of Babesia infection.

Large hospitals usually have an infectious disease physician on staff, but such experts may be rare in smaller community hospitals.

“Washington University provides a physicians’ access line, where any community physician who has any concerns about a patient can call an infectious disease doctor 24 hours a day, 365 days a year, and ask questions,” Spec said. “This is a service that we provide for free to the community.”

To find out whether infectious disease specialists improve outcomes, first author Carlos Mejia-Chew, MD, an instructor in infectious diseases, worked with Spec and colleagues to analyze data from 1,691 patients with Candida bloodstream infections treated at Barnes-Jewish Hospital in St. Louis from 2002 to 2015. The team looked at what steps the Washington University doctors took to treat each infection, including whether they consulted with infectious disease specialists, and how many patients were still living 90 days after diagnosis.

Nearly half (45.9%) of the physicians with primary responsibility for the patients consulted with infectious disease specialists. Of the patients who were evaluated by an infectious disease expert, 28.6% died within 90 days. But of those whose doctors did not call the specialists, 50.5% died. Even after correcting for risk factors such as age and underlying disease, the benefit of a specialist consultation translated into a 20% lower risk of death.

When infectious disease experts were involved, patients were more likely to receive treatments that have been proven to save lives. More of the patients were prescribed antifungal medications, and they stayed on the drugs longer. Infectious disease doctors were more likely to check for serious complications such as infections of the heart. Perhaps most importantly, infectious disease physicians were more likely to remove central line catheters, which are used to administer IV medications.

“A lot of times doctors hesitate to remove central lines because they’re necessary for the care of the patient and once you take it out it’s hard to put a new one in,” Spec said. “But these catheters are also often the source of the infection. When you’re looking at a 40% chance of death, it’s really important to stack the deck in the patient’s favor by getting rid of the source of infection.”

The study is one more piece of evidence that infectious disease physicians play a critical role in managing the care of hospitalized patients. Other studies have shown that consulting with infectious disease physicians in cases of Staphylococcus aureus, Cryptococcus and multidrug resistant infections leads to similarly impressive improved outcomes.


This study was supported by Astellas Global Development Pharma Inc., grant number MYCA-15L03; and the Washington University Institute of Clinical and Translational Sciences, grant number UL1 TR002345 from the National Center for Advancing Translational Sciences (NCATS) of the National Institutes of Health (NIH), and grant number R24 HS19455 through the Agency for Healthcare Research and Quality.

Herwaldt continued

During Barbara’s last eight years at CDC, her responsibilities included serving as chief of CDC’s Parasitic Diseases Drug Service. She was the principal investigator for treatment protocols for various standard-of-care, potentially life-saving antiparasitic medications otherwise not available in the United States. Throughout her tenure at CDC, she provided expert teleconsultative services regarding the diagnosis, treatment, and epidemiology of parasitic diseases, and was instrumental in the development of clinical practice guidelines.

Barbara authored/co-authored numerous scientific articles and book chapters, and is indebted to her collaborators and mentors. She anticipates continuing to learn, grow, and serve in the next phase of her life. She looks forward to having more time to spend with family and friends, to travel to far-flung parts of the world, to observe, and to reflect.
## RECENT GRANT AWARDS

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<td>National Institutes of Health (NIH)&lt;br&gt;National Institute of Allergy and Infectious Diseases (NIAID)</td>
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<td>Jacco Boon, PhD</td>
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<td>Philip Budge, MD, PhD</td>
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<td>Jennie Kwon, DO, MSCI&lt;br&gt;Fangqiong Ling, PhD</td>
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<td>Gary Weil, MD&lt;br&gt;Researchers at Case-Western Reserve University Colleagues at the Papua New Guinea Institute for Medical Research</td>
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<td>Papua New Guinea Research to Inform Triple Drug Stopping Decisions</td>
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### Distinguished Service Teaching Awards

**Gerome Escota, MD**, assistant professor of medicine, receives the Clerkship Director Award of the Year as voted by Third year medical students, Class of 2019.

**Nigar Kirmani, MD**, professor of medicine, and **Steven Lawrence, MD, MSc**, associate professor of medicine, each received a distinguished service teaching award in internal medicine, infectious diseases from second year students, Class of 2021.
Goldberg honored for leadership of the Division of Infectious Diseases

A scientific symposium was hosted by the ID Division to honor Dr. Daniel Goldberg, MD, PhD, the David M. and Paula L. Kipnis Distinguished Professor, for his 19 years of leadership of the division, heading the basic sciences research mission. The symposium was hosted on September 5 at the Eric P. Newman Education Center with opening remarks by David H. Perlmutter, MD, Dean, School of Medicine, Vicky Fraser, MD, Chair, Department of Medicine, Bill Powderly, MD, and Jennifer Philips, MD, PhD, co-directors of the Infectious Diseases Division.

The symposium faculty included Megan Baldridge, MD, PhD and George Kyei, MBChB, PhD, assistant professors of medicine, Jacco Boon, PhD, associate professor of medicine, Robyn Klein, MD, PhD, Vice Provost, professor of medicine and Michael Diamond, professor of medicine.

congratulations...

Best wishes to Jennie Kwon, DO, MSCI, assistant professor of medicine and her husband, Augustine Hong, MD, assistant professor of ophthalmology, on the birth of their daughter, Bernadette Clara Hong, on November 20, 2019 weighing 7 lbs 11 oz and 21 inches long.

farewell . . .

Best wishes to Dr. Merilda Blanco Guzman who accepted a position as an ID clinician at Norton Hospital Louisville, KY and Dr. Lem Non, who accepted an appointment as Clinical Assistant Professor at the University of Iowa.
welcome faculty

Jonathan H. Sheehan, PhD, is an associate professor of medicine. Dr. Sheehan’s focus is on research and was the former director in personalized structural biology/precision medicine at Vanderbilt University. He uses computational structural biology to help biomedical researchers approach their question from a molecular viewpoint. He can contribute a mechanistic hypothesis, structural analysis, or the interpretation of experimental results in the context of a protein’s structure-function relationship. Dr. Sheehan’s teaching interests include Fundamentals of Protein Structure and Function, Biomolecular Modeling and Simulation, and Rosetta Workshops.

Bruce A. Rosa, PhD, is an assistant professor of medicine. He was a visiting scholar bioinformatics at Michigan State University prior to joining Washington University as a postdoctoral research associate in 2014. More recently he was a staff scientist in bioinformatics with the McDonnell Genome Institute in 2019. Dr. Rosa’s research interests focus on bioinformatics, primarily on the analysis of transcriptomic, proteomic, genomic and metagenomic data from infectious agents their host responses to infections. His research has focused primarily on the bioinformatic study of parasitic helminths, but also includes research on tuberculosis, malaria, HIV, and other infectious diseases.

Maria Cristina Vazquez Guillamet, MD, is an assistant professor of medicine. Dr. Vazquez Guillamet obtained her MD from the University of Medicine and Pharmacy, Bucharest, Romania and trained in ID fellowship at Washington University in 2013. Prior to coming to WashU she was an assistant professor at the University of New Mexico Health Sciences Center. Her clinical interests are in critical care and infectious diseases. Her research interest is in developing models to better predict and understand who’s at risk for developing an infection caused by multidrug resistant microbes.

Aaloke Mody, MD, is an instructor in medicine. Dr. Mody completed his infectious diseases fellowship at the University of California, San Francisco in 2019. His clinical interests are in HIV and general infectious diseases, particularly in underserved populations. His overall research interest is in utilizing interdisciplinary implementation science research to understand how public health systems can be optimized to deliver high-quality and patient-centered HIV care in resource-limited settings.

Dharushanan Muthulingam, MD, MS, is an instructor in medicine. She completed her fellowship in 2019 from Yale University. Her clinical interests are infectious diseases and opioid addiction. Her research interests are the intersection of infectious diseases and addiction medicine, patient-centered care, and health disparities.

James White, PhD, is an instructor in medicine. Dr. White earned his PhD in molecular virology and microbiology from Baylor College of Medicine. He did postdoctoral fellowship and later served as a staff scientist in Michael Diamond’s Lab at WashU. His research focuses on the role of viral infection and the antiviral immune response in the enteric nervous system and the development of gastrointestinal functional disorders.
There are many reasons I wanted to come to WUSM, though I think the more important information is how I feel about being here now. The people in our department are an amazing group. It’s been great getting to know everyone over happy hours, meals at attending homes, picnics, and the Angels in America outing. The amount of interest in the fellows and the support the entire department provides us makes for a great training environment.

I’m planning on pursuing a combination ID/CCM and would like to investigate infections and antibiotic decision-making in the critically ill.

Why did you choose an ID fellowship?
I chose ID at Wash U because of the breadth of experience and patient exposures the program offered. From day one they asked what I wanted and how could they help get me there. Also the faculty across the board are fantastic and were that way from interview day.

My major areas of focus are on HIV, STIs, and LGBTQIA health. I also want to learn as much inpatient ID as possible and focus on translational research as well as health policy.

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I have always loved ID since medical school in Peru, given the exposure to all the tropical diseases. However, I initially wanted to do Cardiology. Soon in residency and after an ID rotation here in the U.S., I realized again how fun and challenging the bread and butter on ID is. Also the people here are fascinating and smart. Given my epidemiology background, I would like to continue my training on Hospital Epidemiology.

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I chose WUSM because it had a good balance of clinical work and academic opportunities. It also helped that it was within close proximity to my in-laws and my family. But honestly, after interviewing at WU ID, I felt like I was comparing every other program to Wash U. Unlike other programs, I felt like Wash U really seemed to have an interest in supporting the fellows and their goals rather than trying to push fellows towards pre-determined pathways. Ultimately I feel like that was a correct assessment - Dr. Kirmani and the faculty are really supportive and receptive to supporting our interests. I am very interested in medical education and I think I would like to focus on a teaching physician pathway.

Sasinuch Rutjanawech, MD

I’m originally from Bangkok, Thailand. I came to the US with my family. My husband now does his research at Oncology Division. My hobbies are traveling, seeing movies and running.

Why did you choose an ID fellowship?

Because my main interest is transplant infectious diseases and I know Washington University/Barnes-Jewish Hospital is one of the largest transplant center in the US and also, in the world!! I think the knowledge and experience I obtain from training here will enable me to develop excellent patient care and initiate some research when I go back to my country. When I was a medical student, one of our most popular survival guides was Washington Manual of Medicine. Not surprisingly, being here today makes me feel this is one of the greatest opportunities in my life.

sasinuch rutjanawech, MD

fellows’ corner

Nathan Nolan, MD, MPH, 1st year fellow, served on one of the American Medical Association (AMA) Reference Committees at their interim meeting November 16-20, 2019. The Reference Committee hears the testimony to present a consensus report for review to the house of delegates. Dr. Nolan represented the American College of Physicians as a Delegate to the AMA and served on their 2019 Interim Meeting of the AMA House of Delegates.

POSTER PRESENTATIONS AT IDWEEK 2019

Sasinuch Rutjanawech, MD, 1st year fellow - Poster#1699 Presentations and Outcomes of Histoplasma Capsulatum Infection Vary by Immune Status: A Retrospective Cohort Study and 2108 Comparison of Voriconazole versus Itraconazole in the Treatment of Histoplasmosis – A Retrospective Analysis

Frances Lahrman, MD, 2nd year fellow - Poster #1474 - Epidemiology and Outcomes of Hospitalized Patients with Urinary Tract Infections (UTI) due to Multidrug-Resistant Organisms (MDRO).

Adriana Rauseo, MD, 2nd year fellow - Poster #2570 A Randomized Controlled Trial of Lactobacillus rhamnosus GG on Multidrug Resistant Organism (MDRO) Colonization

Laura Marks, MD, PhD, 3rd year fellow, presented a poster #213 A Comparison of Medication Assisted Therapy Treatment Strategies for Opioid Use Disorder in Persons who Inject Drugs and are Hospitalized with Serious Infections

Juan Calix, MD, PhD, 4th year fellow, Poster #546 Seasonal changes in the prevalence of antibiotic-susceptible Acinetobacter baumannii results in increased multidrug resistance rates during winter months

Laura Marks, MD, PhD
Barrette Joins the HIVMA Board

Ernie-Paul Barrette, MD, FACP, is one of the newly elected board members of the HIV Medicine Association (HIVMA). Dr. Barrette, MD, is the medical director of our HIV and Virology Clinic and Principal Investigator of the Ryan White Part C Grant, Washington University School of Medicine.

The HIVMA is an organization of medical professionals who practice HIV medicine. They represent the interests of HIV health care providers and researchers and their patients by promoting quality in HIV care and by advocating for policies that ensure a comprehensive and humane response to the AIDS pandemic informed by science and social justice.

Since witnessing the growing HIV epidemic as a medical student, Dr. Barrette has dedicated his career to providing primary HIV care. In addition to working tirelessly to expand HIV services in St. Louis, Dr. Barrette is also a clinical educator for fellows, residents, and medical students. He looks forward to bringing these experiences as well as his perspective as a political activist to the HIVMA leadership during these challenging times.

Burnham Receives 2020 ASM Award

Carey-Ann Burnham, PhD, FIDSA, Professor of Pathology & Immunology, Molecular Microbiology, Pediatrics, and Medicine, receives the American Society for Microbiology Award for Research and Leadership in Clinical Microbiology. The award recognizes an outstanding scientist/clinical microbiologist with distinguished research achievements and a record of innovation and advancement of the Clinical Microbiology profession.

The American Academy of Microbiology is the honorific leadership group within the ASM, the world’s oldest and largest life science organization. The mission of the Academy is to recognize scientists for outstanding contributions to microbiology and provide microbiological expertise in the service of science and the public.

Best Doctors in America 2019

Congratulations to our ID physicians recognized on the 2019-2020 Best Doctors List. Washington University Physicians has more Best Doctors than any other physician group in St. Louis. Of the 1,596 physicians on the list, one out of every three Best Doctors in St. Louis is a Washington University Physician.

Hilary M. Babcock, MD, MPH  
Thomas C. Bailey, MD  
Ernie-Paul Barrette, MD  
Courtney Chrisler, MD  
Eric Dubberke MD  
Nigar Kirmani, MD  
William Powderly, MD  
Hilary Reno, MD, PhD  
David K. Warren, MD  
Keith Woeltje, MD, PhD

The Best Doctors in America is an online resource developed by Best Doctors, Inc. Best Doctors believes physicians are the most qualified to evaluate the experience and skill sets of other physicians. Physicians are asked “If you or a loved one needed a doctor in your specialty, who would you choose?” This list is also published every August by St. Louis Magazine.
Mattar Named Chair of a Group Aimed at Combating Antimicrobial Resistance

**Caline Mattar, MD**, an assistant professor of medicine in the Division of Infectious Diseases at Washington University School of Medicine in St. Louis, has been appointed chair of the Expert Advisory Group for the Global Antimicrobial Resistance Research and Development Hub.

Based in Germany, the organization formed in May 2018 to pool international resources to develop new antibiotics, preventives and diagnostics against infections. Antimicrobial resistance occurs when microorganisms such as bacteria, viruses and parasites render antibiotics and other medications ineffective. The concern is that infections will spread and increase the risk of extended illnesses, disability and death.

Mattar was selected as one of 13 global experts by the hub because of her expertise in infectious diseases and antimicrobial resistance. In the role, Mattar will help lead a group tasked to evaluate vaccines, antibiotics and diagnostic tests aimed at combating tuberculosis and other pathogens deemed worrisome by the World Health Organization.

The group’s funding for new antibiotics and vaccines comes from 15 countries — including the U.S. — as well as the Bill & Melinda Gates Foundation and the Wellcome Trust.

Spec Joins European Confederation of Medical Mycology as a Fellow

The Academy of the European Confederation of Medical Mycology (ECMM) welcomed Andre Spec, MD, MSCI, assistant professor of medicine, as a Fellow of the ECMM (FEC-MM). The ECMM Academy was founded in 2016 by Oliver Cornely and Martin Hoenigl to unify Medical mycologists from around the world. Academy Fellows are acknowledged as mycologists with outstanding expertise in medical mycology.

Dr. Spec’s research is in fungal infections, particularly in immunocompromised patients, including those with transplants. His research focuses on Cryptococcus, Histoplasma and Candida. He studies the epidemiology and factors that affect outcomes in patients infected with fungus, both in the United States and globally in resource limited settings of Guatemala. He serves as the Associate Director of our Infectious Disease Clinical Research Unit (ID-CRU) and is actively involved in the Mycoses Study Group (MSG), through which he participates and runs multicenter studies focused on new diagnostic tests and treatments for invasive fungal infections, and is the creator and leader of the Washington University Mycoses Group (a consortium of researchers interested in fungal infections). Dr. Spec also runs the division’s clinic focusing on invasive fungal infections, where he takes care of both immunocompromised and immunocompetent patients with fungal infections, which he considers the best and most rewarding part of his job.
Jeffrey Henderson, MD, PhD and colleagues find signature molecule that may help to identify people at high risk for developing *C. difficile* infection

Researchers at Washington University School of Medicine in St. Louis have found the molecular signature of a healthy gut microbial community, or microbiome – the kind of community that keeps *C. difficile* in check even in the aftermath of antibiotic treatment. They also have identified a specific molecule produced when *C. difficile* is not lying dormant but is active and making toxins. Together, the findings outline a set of molecular signs that indicate a person has – or is at risk for – diarrhea caused by *C. difficile*. 

“By analyzing the small molecules produced by the microbiome, we may be able to identify people at high risk for developing *C. diff* diarrhea.” Said senior author Jeffrey Henderson, MD, PhD. “We also may be able to use this type of analysis to screen potential donors for fecal transplants and make sure they are donating the kind of microbiome that can help keep *C. diff* under control.”

*The paper is the result of an interdisciplinary CDC-funded study with Erik R. Dubberke, MD, MSPH, Jennie H. Kwon, DO, Carey-Ann Burnham, PhD, D(ABMM), FIDSA, F(AAM) and mathematician collaborator, Peter J. Mucha PhD at U. North Carolina, Chapel Hill.*
Diamond honored with 2019 Stanley J. Korsmeyer Award

Michael S. Diamond, MD, PhD, the Herbert S. Gasser Professor of Medicine, has been chosen as the recipient of the American Society for Clinical Investigation’s 2019 Stanley J. Korsmeyer Award. He is being honored for his contributions to understanding the molecular basis of disease caused by globally emerging RNA viruses such as the Zika, West Nile and chikungunya viruses.

Diamond is noted for leading groundbreaking studies into Zika, including why and how it causes devastating neurological damage to the developing fetus. Further, Diamond has been at the forefront of research into West Nile virus, which began causing brain infections in the United States in the early 2000s. He identified the immune cells and molecules involved in controlling West Nile infection.

Diamond’s research has focused on a subset of RNA viruses known as flaviviruses and alphaviruses, which include chikungunya. His laboratory has identified many of the key immune system components that define host protection against these virus types and the viral genes that work against this response.

Michael Diamond, MD, PhD and Daved Fremont, PhD, co-inventors of Zika diagnostic test granted market authorization by FDA

A diagnostic test newly granted market authorization by the Food and Drug Administration (FDA) promises to help resolve this confusion. The test, developed by InBios International and based in part on technology licensed from Washington University School of Medicine in St. Louis, can detect signs of Zika infection in serum samples within 12 weeks of infection.

“Pregnant women living in or visiting places where Zika is endemic will want to know if they have been exposed to the virus,” said Michael S. Diamond, MD, PhD, a co-inventor of the technology that underlies the test. Diamond is the Herbert S. Gasser Professor of Medicine and a professor of molecular microbiology and of pathology and immunology at Washington University. “This test, along with another that detects viral genetic material at very early stages of infection, will help women and their doctors make informed health-care decisions.”

In 2016, Diamond and co-inventor Daved Fremont, professor of pathology and immunology – along with then-graduate student Estefania Fernandez, MD, PhD, and postdoctoral researcher Haiyan Zhao, PhD – identified and characterized an antibody that detects Zika virus proteins. In the first days after infection, immune cells churn out large amounts of anti-Zika antibodies. The test uses Diamond and Fremont’s antibody – as well as other components – to detect anti-Zika antibodies in the blood of people recently infected with the virus.

Although the consequences of Zika infection are most severe for developing fetuses, in rare cases the virus also can cause serious illness in children and adults. It has been linked to brain swelling and to Guillain-Barre syndrome, a neurological condition involving muscle weakness and paralysis.

The test is not meant to be used as a stand-alone proof of infection. The FDA recommends that the test be used only for people with symptoms of recent infection, as well as a history of living in or traveling to geographic regions where Zika circulates. Positive results should be confirmed in accordance with guidelines from the Centers for Disease Control and Prevention.
Mati Hlatshwayo, MD, appointed Chair of Fast Track Cities

Institute for Public Health and Washington University Join Effort to
End AIDS by 2030. St. Louis City and County sign “Fast-Track Cities” Declaration.

As of Dec. 1, 2019, St. Louis is now one of more than 300 Fast-Track Cities committed to ending HIV/AIDS by the year 2030. The Institute for Public Health and Washington University are committed to helping St. Louis leaders reach initiative goals.

On Dec. 1, National World AIDS Day, the Larry J. Shapiro Director of the Institute for Public Health, **Bill Powderly, MD**, joined City of St. Louis Mayor Lyda Krewson and city health officials; representatives from County Executive Sam Page’s office; Dr. Jose M. Zuniga, President/CEO of the International Association of Providers of AIDS Care (IAPAC, facilitating partner of the initiative); Washington University School of Medicine faculty; and local healthcare service organizations at a downtown news conference announcing the Fast-Track Cities, St. Louis initiative.

Mayor Krewson and Dr. Zuniga signed an official declaration, which calls on St. Louis to strengthen local HIV efforts and achieve a set of programmatic targets to significantly reduce new HIV infections and end AIDS-related deaths. These targets call for:

- 90 percent of people living with HIV (PLHIV) knowing their status;
- 90 percent of all PLHIV receiving sustained antiretroviral treatment; and,
- 90 percent of all PLHIV on antiretroviral treatment achieving durable viral suppression.

**Mati Hlatshwayo, MD, MPH**, clinical instructor of medicine at Washington University School of Medicine, is co-chair of the Fast Track Cities along with co-chair, Franda Thomas, City of St. Louis Department of Health's Bureau Chief for Communicable Diseases. **Elvin Geng, MD, MPH**, professor of medicine at Washington University School of Medicine and director of the Center for Dissemination and Implementation at the Institute for Public Health is also among the faculty dedicated to this project.

Fast-Track Cities is a global partnership between cities and municipalities around the world and four core partners, including IAPAC. Launched in December 2014, the partnership today counts on more than 250 jurisdictions that have committed to accelerate their local AIDS response to attain HIV prevention (primary and secondary), treatment, and zero stigma targets.

**Get your copy of the WashU Manual**


The manual was edited by Washington University ID faculty, **Nigar Kirmani, MD**, professor of medicine, **Michael Durkin, MD, MPH**, assistant professor of medicine, and **Stephen Liang, MD, MPH**, assistant professor of medicine.
Kwon receives Emerging Leader Award from her alma mater

The Emerging Leader Award is granted annually to a Chicago College of Osteopathic Medicine Midwestern University (CCOM) alumnus who has had a demonstrated impact on individuals and organizations in the osteopathic community. Jennie H. Kwon, DO, MSCI, assistant professor of medicine, infectious diseases division, is this year’s (2019) recipient. Dr. Kwon is honored for inspiring young leaders to make a difference and her contributions as a leader in medicine.

The Emerging Leader Award was presented by the former long-time Dean of the CCOM, Karen J. Nichols, DO, MA, MACOI, CS. Dr. Nichols is a member of the Accreditation Council for Graduate Medical Education (ACGME) Board of Directors. Her focus is to provide leadership for and promoting osteopathic medicine to the broader medical and health professions community.

Dr. Kwon’s mentee, Kimberley Sukhum, PhD, is the recipient of the 2019 Society of Healthcare Epidemiology of America (SHEA) Research Scholar Award. The SHEA Education and Research Foundation, and the SHEA Research Committee recently announced the availability of this new research grant award up to $40,000.

Gerome Escota, MD, selected to chair Teaching and Learning Resources Work Group of IDSA

The Infectious Diseases Society of America Medical Education Community of Practice Committee (IDSA Med Ed COP) recently selected Gerome Escota, MD, assistant professor of medicine, infectious diseases division, to chair the Teaching and Learning Resources (TLR) Work Group of the IDSA Med Ed COP. It is through these groups that the IDSA will be able to accomplish their goals of helping the ID community more effectively teach learners and help support ID Clinician Educators.

This appointment will be for three years. As the TLR Work Group chair, Dr. Escota will also serve on the Executive Committee of the Med Ed COP. The committee expressed enthusiasm about the leadership Dr. Escota brings to the Work Group.

Hlatshwayo selected as member of Med Ed COP’s Mentoring Work Group

Matifadza G. Hlatshwayo, MD, MPH, Clinical Instructor is one of the newest members of the Mentoring Work Group. The purpose of the IDSA Medical Education Community of Practice group is to support IDSA members to become better teachers of all learner groups and to support and advocate for the career development of IDSA members on a clinician educator pathway with the end goal of helping to recruit the best and brightest into our field.
Drs. Rupa Patel and Brad Stoner will lead network to halt spread of HIV in Midwest

The battle against HIV increasingly looks winnable, and Washington University in St. Louis is helping lead the charge. Rupa Patel, MD, an assistant professor of medicine, has received a grant for $3.9 million from the Centers for Disease Control and Prevention (CDC) to establish a regional resource center at the university to aid HIV prevention efforts in 12 Midwestern states.

PrEP taken every day resulted in the reduction of new infections around the world. At the federal level, there is a goal of ending the HIV epidemic in the U.S. by 2030. Our contribution to that goal is that we’re going to make sure that this pill gets to everyone who would benefit from it in the Midwest.”

As part of the federal initiative to end the HIV epidemic, the CDC launched a five-year, $120 million program to strengthen the nation’s HIV-prevention efforts and tapped 17 organizations to implement the program.

Patel and co-principal investigator Bradley Stoner, MD, PhD, an associate professor of anthropology and of medicine, were selected to establish the Midwest Capacity Building Assistance Network to provide individualized expertise, technology and resources to Midwestern organizations that want to scale up HIV prevention and PrEP services.

Both Patel and Stoner are experienced in the field. Patel directs Washington University’s PrEP Program, which provides PrEP care to HIV-negative people. Stoner is the medical director of the CDC-funded St. Louis STD/HIV Prevention Training Center. They will assist groups working in hard-hit communities in Missouri, Illinois, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Wisconsin, Michigan, Indiana and Ohio. More on the story.

Geng receives tenure

At the Washington University in St. Louis Board of Trustees meeting Dec. 6, Elvin Hsing Geng, MD, Director of the Center for Dissemination and Implementation Science (CDI) at the Institute of Public Health and a member of the ID Division faculty, was appointed Professor of Medicine with Tenure as of December 6, 2020.
Escota and George Finalists at IDSA IDEA Incubator Competition

The innovative work of Gerome Escota, MD, and Ige George, MD, both assistant professors of medicine, was honored during the Infectious Diseases Society of America’s (IDSA) second annual IDEA Incubator, a competition hosted by IDSA to showcase inventions, products and devices designed to improve patient care for infectious diseases during ID Week.

Drs. Escota and George were among four finalists to make it through the final round to compete for the grand prize in front of an expert panel of judges from the business, technology, and medical industries. They showcased their creation of a Twitter-based platform, @WuidQ, which is the first free open-access medical education resource to provide review of infectious diseases through board-style, multiple-choice questions.

Awarded the grand prize for an outpatient parenteral antimicrobial therapy monitoring device were Sai Dodda, a student at the St. Louis College of Pharmacy, and Chris Sleckman, MS, engineer, Clayton, Missouri, both of HIVE, a student-run biotech startup at Washington University in St. Louis.

Several of our faculty and fellows were present to support the competition and attend the annual ID Reunion sponsored by the ID Division.

Rupa Patel joins PLOS ONE Editorial Board

Rupa Patel, MD, MPH, DTM&H, joined the Editorial Board for PLOS ONE as an Academic Editor. Dr. Patel will review LGBT health, HIV prevention (PEP, PrEP), and other HIV related articles.

The board comprises working scientists who are established principal investigators/group leaders with extensive publication records. Academic Editors oversee the peer review process for the journal, including evaluating submissions, selecting reviewers and assessing their comments, and making editorial decisions. Together with fellow Editorial Board Members and internal staff, Academic Editors uphold journal policies and ethics standards and work to promote the PLOS ONE mission to provide free public access to scientific research.
Adaptive Radiation of the Flukes of the Family Fasciolidae Inferred from Genome-Wide Comparisons of Key Species. Young-Jun Choi, Santiago Fontenla, Peter U Fischer, Thanh Hoa Le, Alicia Costabhile, David Blair, Paul J Brindley, Jose F Tort, Miguel M Cabada, Makedonka Mitreva. Molecular Biology and Evolution, Volume 37, Issue 1, January 2020, Pages 84–99, https://doi.org/10.1093/molbev/msz204

Makadonka Mitreva, PhD, professor of medicine, and colleagues find novel insights into the genome evolution of the intestinal and liver flukes of Fasciolidae flukes that cause zoonotic food–borne infections. This comparative genomic analysis reveals the molecular evolutionary patterns associated with intermediate host switch and shift from intestinal to hepatic habitats. The study suggests that climatic and ecological changes may have contributed to the adaptive radiation of these species, which were accompanied by increased transposable element activity, lineage-specific gene family expansions, and differential rates of molecular evolution among different gene families. The genomic resources generated through this work will support ongoing efforts to develop novel interventions and diagnosis, and underpin epidemiologic investigation of new disease outbreaks, virulence and drug resistance. The study collaborators included University of Texas Medical Branch (USA), George Washington University (USA), James Cook University (Australia), Vietnam Academy of Science and Technology (Vietnam) and Universidad de la República (Uruguay).


Megan T. Baldridge, MD, PhD, assistant professor of medicine: There are currently no treatments for norovirus, which is very easily spread through fecal-oral transmission. Norovirus is especially dangerous in young children, older adults and people with compromised immune systems. We are trying to understand how the gut microbes interact with norovirus in an effort to pursue new therapeutic strategies.


Aaloke Mody, MD, instructor in medicine: Understanding the journeys that patients take after starting treatment can help to improve public health response to the HIV epidemic. Among 38,930 new ART starters in Zambia, we used novel group-based trajectory modelling to characterize these journeys and identify unique "engagement phenotypes" based on the patterns of retention and adherence patients had over time. We found that patients frequently follow a limited number of archetypal treatment patterns over time and that differences in these treatment journeys were one of the strongest predictors of subsequent mortality in this population. Future research now needs to on understanding how to tailor interventions towards these specific engagement phenotypes and treatment histories.
Undetectable=Untransmittable (U=U)

Matifadza G. Hlatshwayo, MD, MPH, instructor in medicine, partnered with the Repertory Theatre in St. Louis to do a historical and educational talk about the history of HIV and U=U to complement their performances of Angels in America on October 6. Dr. Mati also discussed new research and strategies to curb transmission of the virus.

This was a free event to learn more about the medical science behind the show, which is based on the beginning of the AIDS epidemic, and the steps we can all take to arm ourselves and our communities against the ongoing threat of HIV.

*Dr. Powderly kindly sponsored our fellows to attend the show.*

ID Division Happy Hour on a pleasant October evening.
The Drs. Gerald and Judith Medoff Professor of Medicine will celebrate Jerry’s passion and love for the School of Medicine, his outstanding career which began with basic mycology research and extended to clinical research, patient care, and education. Jerry loved to teach, and was a passionate educator when interacting with medical students, residents, and fellows.

To honor Jerry, Vicky Fraser, MD, and her husband, Steve Miller, MD, are making a lead gift of $1M in a matching fund to endow a professorship in the name of Drs. Gerald and Judith Medoff. Please join our effort by financially supporting his endowed professorship with a charitable gift. Your gift will enable us to continue the inspiring tradition of excellence in research, patient care, and education that Jerry was committed to throughout his career.

We thank you for your gifts and your consideration for helping celebrate Dr. Jerry Medoff’s legacy.
Gifts received as of Dec. 31, 2019

Every gift will make a difference.

Online gifts can be made through [https://gifts.wustl.edu](https://gifts.wustl.edu).
Please be sure to designate the School of Medicine and Infectious Diseases, describe designation.