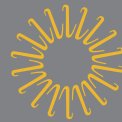


DIVISION OF INFECTIOUS DISEASES



Rhode Island Hospital
The Miriam Hospital
Lifespan Partners

Division of Infectious Diseases

at Rhode Island Hospital and The Miriam Hospital

The Division of Infectious Diseases at Rhode Island and The Miriam hospitals provides comprehensive inpatient and out-patient medical care to patients with infectious diseases. Our hospitals are major teaching affiliates of The Warren Alpert Medical School of Brown University. In collaboration with the medical school, our mission is to provide state-of-the-art care for all patients with any type of infectious disease; to teach and mentor medical students, house officers and fellows in the art and science of infectious diseases; and, to pursue clinical and basic research that investigates the manifestations and treatment of infectious diseases.

The division has a number of areas of expertise including bacteriology, global health, human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS), infection control, virology and sepsis research. It is active in clinical, translational, and basic science research and annually receives close to \$12 million in external funding.



Eleftherios Mylonakis, MD, PhD, FIDSA, is the chief of infectious diseases at Rhode Island Hospital and The Miriam Hospital, and is also the Dean's Professor of Medical Sciences at The Warren Alpert Medical School of Brown University. He is recognized for his research on the study of microbial pathogenesis and host responses. His investigations have identified novel virulence factors, cross kingdom pathogen-pathogen interactions, novel agents and evolutionarily conserved traits that are involved in host virulence and immune responses during infection. His research has resulted in more than 160 peer-reviewed scientific articles. Mylonakis has edited five books on infectious diseases and is the founding editor-in-chief of *Virulence*.

Infectious Diseases Outpatient Care

The Infectious Diseases and Immunology Center, located at The Miriam Hospital, is the largest provider of outpatient care in Rhode Island for patients with infectious diseases. Through the center's Community Infectious Disease Prevention Clinic, The Miriam Hospital coordinates with the Rhode Island Department of Health to provide key prevention, counseling, testing and treatment services for HIV, sexually transmitted diseases (STDs), viral hepatitis and tuberculosis. The Division of Infectious Diseases also supports an extensive clinical trials program that helps to expand knowledge about and access to therapy for HIV, viral hepatitis and other infectious diseases.

Infectious Diseases Consultation

The Infectious Diseases and Immunology Center provides consultation services about infectious diseases for communities in southern New England. The center's collaborative team includes physicians, nurses, a physician assistant and administrative staff. Faculty board certified in infectious diseases and fellows offer expertise in a variety of infectious diseases in the outpatient setting. These include consultations with providers in the community, as well as follow-up care for patients with infectious diseases acquired during hospitalizations.

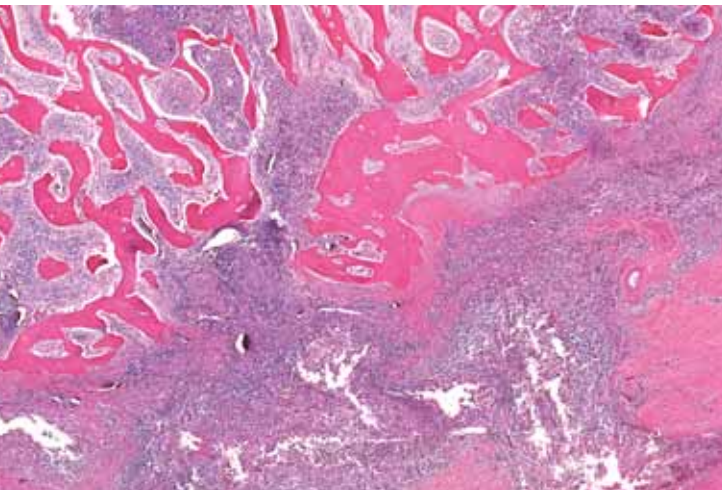


The center sees patients with a diverse range of infections, including but not limited to:

- Central nervous system infections
- Chronic or refractory infections
- Viral infections
- Endocarditis
- Nosocomial infections
- Infections in immunocompromised patients, including patients with cancer
- Osteomyelitis

Furthermore, we facilitate outpatient parenteral antimicrobial therapy for patients following hospitalizations, which involves close monitoring of patients and coordination of care with various facilities and health care providers involved in parenteral management. Every month we see more than 100 patients who require consultation for infectious diseases.

For more information, please call 401-793-4020.



Lyme Disease Clinic

Located at The Miriam Hospital, the Lyme Disease Clinic specializes in the diagnosis and treatment of patients with Lyme disease. The clinic's team of infectious diseases specialists treats patients with acute and chronic Lyme disease and other tick-borne illnesses, such as ehrlichiosis and babesiosis.

For more information about the Lyme Disease Clinic, please call 401-793-4020.



Travel Clinic

The University Medicine Travel Clinic, located at The Miriam Hospital, provides up-to-date preventive care for international travelers. Services include both recommended and required vaccinations, and counseling on infectious diseases prevention in infants, children and adults. Taking the recommended precautions against infections and illness is the first step to safe travel. Prevention counseling may include advice on preventing malaria, as well as on preventing and treating traveler's diarrhea.

Vaccines available at the travel clinic include: hepatitis A, hepatitis B, hepatitis A and B combination, influenza, Japanese encephalitis, Gardasil for HPV, measles-mumps-rubella (MMR), meningococcal, pneumococcal, polio, rabies, shingles, tetanus, TDAP, typhoid, varicella and yellow fever. Protective sprays, lotions and rehydration salts are also available.

The clinic is a yellow fever vaccination center authorized by the Rhode Island Department of Health. Vaccinated patients will also be given the International

Certificate of Vaccination, which is needed to travel to countries that require the yellow fever vaccine.

The travel clinic also provides care for travelers who return home with an illness and provides employment-related vaccinations on a walk-in basis. However, referral from a physician is required.

For more information about the University Medicine Travel Clinic, please call 401-793-4075 or visit <http://www.umfmed.org/travel/>.

Clinical Trials Unit

The Miriam Hospital's Infectious Diseases Clinical Trials Unit has investigated new treatments for HIV and hepatitis C (HCV) infection since 1997. The experienced research staff is comprised of physicians, nurses, a data manager, a regulatory coordinator, and laboratory personnel.

Our AIDS Clinical Trials Group (ACTG) site has been funded by the National Institutes of Health since 2000, and currently in association with the Harvard/Partners Clinical Trials Unit. Investigators at The Miriam Hospital have served as chairs and co-chairs of ACTG studies to research better treatments for drug-resistant HIV and HIV in the genital tract of women. The priority of ACTG studies is to test new approaches to HIV infection with the aims of eradicating HIV infection and reducing the chronic inflammatory state, thereby leading to healthier outcomes. Cutting-edge studies of new medications for influenza and hepatitis C (with and without interferon injections), and of vaccines to prevent *Clostridium difficile* infection, are being conducted at The Miriam Hospital's Infectious Diseases Clinical Trials Unit.

For more information about clinical trials, please visit www.clinicaltrials.gov or www.miriamhospital.org/aids-hiv-care, or contact us directly:

Patricia Delgado, research assistant, 401-793-4769

Pamela Poethke, RN, 401-793-4971

Karen Tashima, MD, 401-793-7152

Aadia Rana, MD, 401-793-7152

Center For Aids Research (CFAR) Immunology Research Laboratory

The CFAR Immunology Research Laboratory is a 2,800-square-foot Biosafety Level 2 laboratory located on The Miriam Hospital campus. It has been in existence since August of 1997 and has grown into a research specimen processing laboratory that is well known and well respected among its peers. The laboratory follows The Miriam Hospital's standards for laboratory practice, as well as the Joint Commission, GCLP, OSHA and CAP standards, and offers a wide range of research specimen processing abilities, including using molecular techniques for HIV-1 and co-infections. We offer specimen storage (repository) to the research community on a fee-for-service basis.

*Jaclynn Kurpewski, Laboratory Manager,
401-793-4538*

*Karen Tashima, MD, Laboratory Director,
401-793-7152*

Comprehensive HIV Primary and Specialty Care

HIV/AIDS is a leading cause of death in the world; approximately four million new infections occur each year. The Immunology Center employs world-renowned infectious diseases physicians dedicated to helping those with HIV/AIDS live longer, fuller lives.

The goal of the center is to provide comprehensive, up-to-date and compassionate care for all persons living with HIV. The multidisciplinary practice involves clinical care as well as a strong research component that offers patients early access to promising new therapies.

The center provides comprehensive care to more than 1,500 patients with HIV, provided by a team of physicians who are leaders in the recognition, diagnosis and treatment of HIV and STDs; nurses; social workers and case managers. More than 70 percent of the individuals in Rhode Island who are HIV-infected are connected with primary medical care through the center.

The center offers:

- Comprehensive care for HIV-infected patients
- A program for HIV-infected women that offers case management, clinical trials and gynecological care, including colposcopy
- Preconception counseling for HIV-infected women and men, including serodiscordant couples, as well

as specialized care of HIV-infected pregnant women in collaboration with their obstetricians

- The country's first HIV and menopause clinic
- An HIV program for adolescents that offers intensive care and long-term support
- One of the country's first HIV/viral hepatitis co-infection treatment programs
- Infectious diseases and HIV-related clinical trials sponsored by the federal government and pharmaceutical companies
- Free active outreach care and HIV/STD prevention for substance abusers (particularly heroin and cocaine needle users), offered in collaboration with AIDS Care Ocean State
- HIV care that is linked to the community at the state prison and substance abuse treatment sites
- Participation in four federally funded HIV prevention programs for adolescents, high-risk women, and men and women leaving prison

The Immunology Center is a major component of the Lifespan/Tufts/Brown Center for AIDS Research—one of 19 centers located at leading AIDS research institutions nationwide that are focused on exploring new opportunities for HIV/AIDS research through interdisciplinary collaboration and shared resources.

For more information about HIV primary and specialty care at the Immunology Center, please call 401-793-2928, or visit www.miriamhospital.org/immunology.

HIV/Viral Hepatitis Co-infection Program

The HIV/Viral Hepatitis Co-infection Program provides multidisciplinary care to HIV-infected persons who also have hepatitis C (HCV) and/or hepatitis B (HBV). Established in 2001, the goals of the program include:

- Promptly diagnosing and treating viral hepatitis
- Preventing new viral hepatitis infections
- Educating patients about viral hepatitis
- Screening for other forms of liver disease, including liver cancer
- Supporting patients via a weekly support group and individual care with our psychologist
- Facilitating research in co-infection

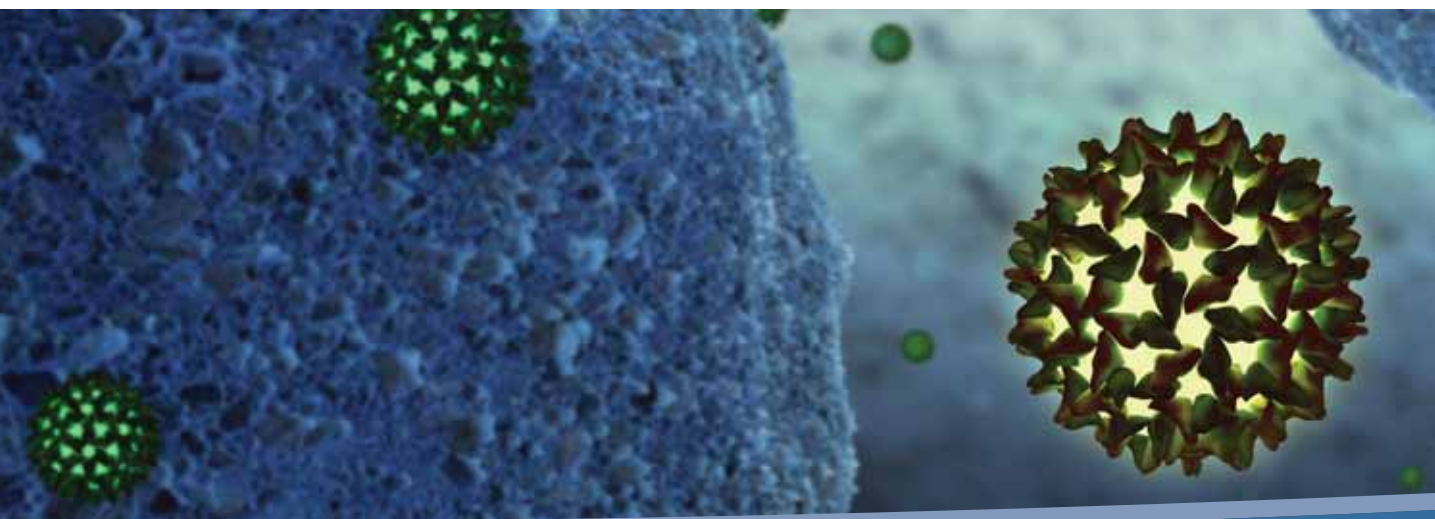
- Enhancing care for co-existing alcohol and drug use
- Eliminating HCV infection among our clinic population

*For more information, please contact:
Stacey Chapman, RN, 401-793-2899
Lynn E. Taylor, MD, 401-793-4620*

In addition, we provide:

- Evidence-based behavior interventions for individuals with substance abuse and mental health disorders
- Mental health care for individuals receiving treatment for HCV and HIV
- Research initiatives investigating the behavioral medicine, mental health, and substance use needs of HIV- and HCV-infected individuals

For more information, please contact Megan Pinkston Camp, MA, PhD, 401-793-3582.



HIV Menopause Clinic

The HIV Menopause Clinic is committed to helping HIV-positive women who are also dealing with menopause. Antiretroviral therapy has revolutionized the treatment of individuals infected with HIV and has caused dramatic reductions in morbidity and mortality. The result is a rapidly growing population of women who will experience menopausal transition and other health matters related to aging while HIV infected. Menopause may induce many of the same metabolic changes that are being observed with HIV infection, which may complicate the health and quality of life of aging women with HIV infection.

The HIV Menopause Clinic provides comprehensive evaluation of women's gynecological and bone health, and evaluates risk factors for cardiovascular and metabolic complications. It also gathers data about how menopause affects those with HIV and its treatment. The clinic's multidisciplinary team includes an obstetrician/gynecologist, an infectious diseases specialist, a nurse and a medical assistant.

Community Infectious Diseases Prevention Clinic

The Miriam Hospital has been a key partner with the Rhode Island Department of Health and other community agencies in providing prevention counseling and testing services for infectious diseases that impact the health of the community. These diseases include HIV, STDs, viral hepatitis and tuberculosis. These prevention services are additionally supported through a broad array of testing and prevention initiatives through the Lifespan/Tufts/Brown Center for AIDS Research.

Integrated HIV, STD and Viral Hepatitis Testing

The Miriam Hospital offers testing for HIV/AIDS, syphilis, gonorrhea, chlamydia, trichomonas, and hepatitis. Testing is offered at several locations:

- Testing for HIV, STDs and HCV is offered at The Miriam Hospital's 1125 North Main Street office on a walk-in basis every Friday from 1:30 to 3:30 p.m. and at other days and times by appointment. Testing is provided free for those without insurance. For more information, please call 401-793-2928.
- Free testing for HCV, HBV and HIV is offered in collaboration with AIDS Care Ocean State at the Broad Medical Building at 557 Broad Street in Providence on Tuesdays and Wednesdays from 1 to 3 p.m. and on Thursdays from 10 a.m. to 1 p.m. For more information, please call 401-781-0665.

The Viral Hepatitis Initiative

The Miriam Hospital offers a consultation and treatment program for persons diagnosed with viral hepatitis. Services are provided regardless of insurance status and include clinical evaluation, assessment of the extent of liver injury, and treatment when indicated. Treatment for hepatitis C is rapidly evolving, with new therapies available that both significantly reduce the side effects and complications of treatment and offer treatment opportunities for those who were not able to be cured with currently approved treatment regimens. Through the clinical trials program, The Miriam Hospital supports access to and evaluation of novel therapies for hepatitis C. Care for patients with cirrhosis is provided in part-

nership with the Division of Gastroenterology. As part of our consultation services, patients are linked to needed medical care.

For more information about the viral hepatitis initiative or for referrals for hepatitis consultation and treatment, please call 401-793-2912.

RISE Clinic

Since being established in 2000, the RISE Clinic is the only dedicated tuberculosis (TB) clinic in the state of Rhode Island, and is supported by the Rhode Island Department of Health. TB, which is transmitted person to person through shared air space, remains a global and local public health disease. The clinic provides expert consultation and care for all forms of both active and latent TB, as well as evaluation of patients who have potentially been exposed and are at risk.

The RISE Clinic partners with the Rhode Island Department of Health's epidemiology division in the provision of directly observed therapy for all patients with active TB. This program, recommended by the World Health Organization and the Centers for Disease Control and Prevention, ensures that all active cases are treated until cured, and works to limit community exposure and minimize drug side effects. The comprehensive care provided by the clinic also includes access to the most up-to-date diagnostic tests, as well as the newest drug regimens for evaluation of latent TB infection. Providing care to both children and adults, the RISE Clinic's family-centered approach also allows all family members to access expert care in a single setting.

For more information about the RISE Clinic, please call 401-793-2427.

Global and Local Health Programs

Global and Local Health Programs

Physicians and researchers from the Division of Infectious Diseases are involved in programs around the world that seek to provide excellent medical care to patients and to address disparities in the provision of health care. Part of their mission is to advocate for underserved populations and to seek positive policy changes that benefit various groups in need of better care.

Global Health Initiative

The Global Health Initiative is a multidisciplinary effort to reduce health inequalities among underserved populations locally and worldwide through education, research, service and the development of partnerships. With current projects and programs in 33 countries, the Global Health Initiative is particularly well positioned to expand and to accelerate global health efforts. The initiative encompasses a wide range of practitioners and researchers across medicine, public health, biomedical research, social science, and engineering to provide sustainable solutions in partnership with communities and institutions around the globe.



HIV Care for Rural Women

Adherence to medical care and treatment among HIV-infected patients is a vital concern for public health, as well as for an individual's health. In order to extend care to one difficult-to-reach population, clinicians from our group lead ongoing projects evaluating factors that impact adherence to HIV care and treatment among postpartum HIV-infected women in Mississippi and in Ghana.

The Center for Prisoner Health and Human Rights

The Center for Prisoner Health and Human Rights, based in the Division of Infectious Diseases, seeks to advance the health and human rights of prisoners and other populations through research, education, and advocacy. Infectious diseases, including HIV and other STDs, hepatitis B and C, and tuberculosis, as well as addiction, mental illness and many other diseases, are much more prevalent among prisoners and other individuals involved in the criminal justice system. Through a collaboration of doctors and health care professionals, faculty, researchers, lawyers, community activists, and students, the center strives to educate health professionals, policy and opinion makers, and the general public, and to translate world-class research into sound, evidence-based policies and practices that address the multiple dimensions of this public health and human rights crisis.





Philly Faith in Action

Philly Faith in Action is a collaboration between Brown University's Global Health Initiative and more than 100 faith and community leaders in Philadelphia. Philly Faith in Action works to reduce racial disparities in HIV infection; promote HIV/AIDS awareness in congregations across the city of Philadelphia; offer testing and treatment; and fight stigma. Philly Faith in Action provides educational materials and training for clergy and community members about HIV/AIDS, and also engages in local, state and federal advocacy to promote the health, interests and welfare of those living with and affected by HIV/AIDS. To learn more, visit www.phillyfaithinaction.org.



Do One Thing

Living in a neighborhood with high rates of HIV infection can increase one's risk of coming in contact with, and thus contracting, the virus. Often the most heavily affected neighborhoods have few medical resources. To bring higher levels of testing to one such community with high rates of HIV infection, members of our division established "Do One Thing," an HIV and hepatitis C testing and treatment campaign that addresses an unmet need for HIV testing and care services in one southwest Philadelphia neighborhood that is disproportionately affected by the diseases. This campaign aims to both dramatically stimulate demand for and provide HIV testing in the zip code 19143 area, and to retain as many people as possible in HIV treatment and care.

"Do One Thing" includes:

- Large-scale media partnerships, all coordinated and designed to remove the stigma of HIV infection and to promote HIV testing in the ZIP code 19143 area
- Extensive community outreach and mobilization
- Partnership with a federally qualified health center in southwest Philadelphia that offers routine HIV testing
- A city block based HIV testing program in which trained counselors and testers link HIV-positive individuals to treatment and care services
- Other community testing events at houses of worship, businesses and other community organizations in the ZIP code 19143 area

Education and Training

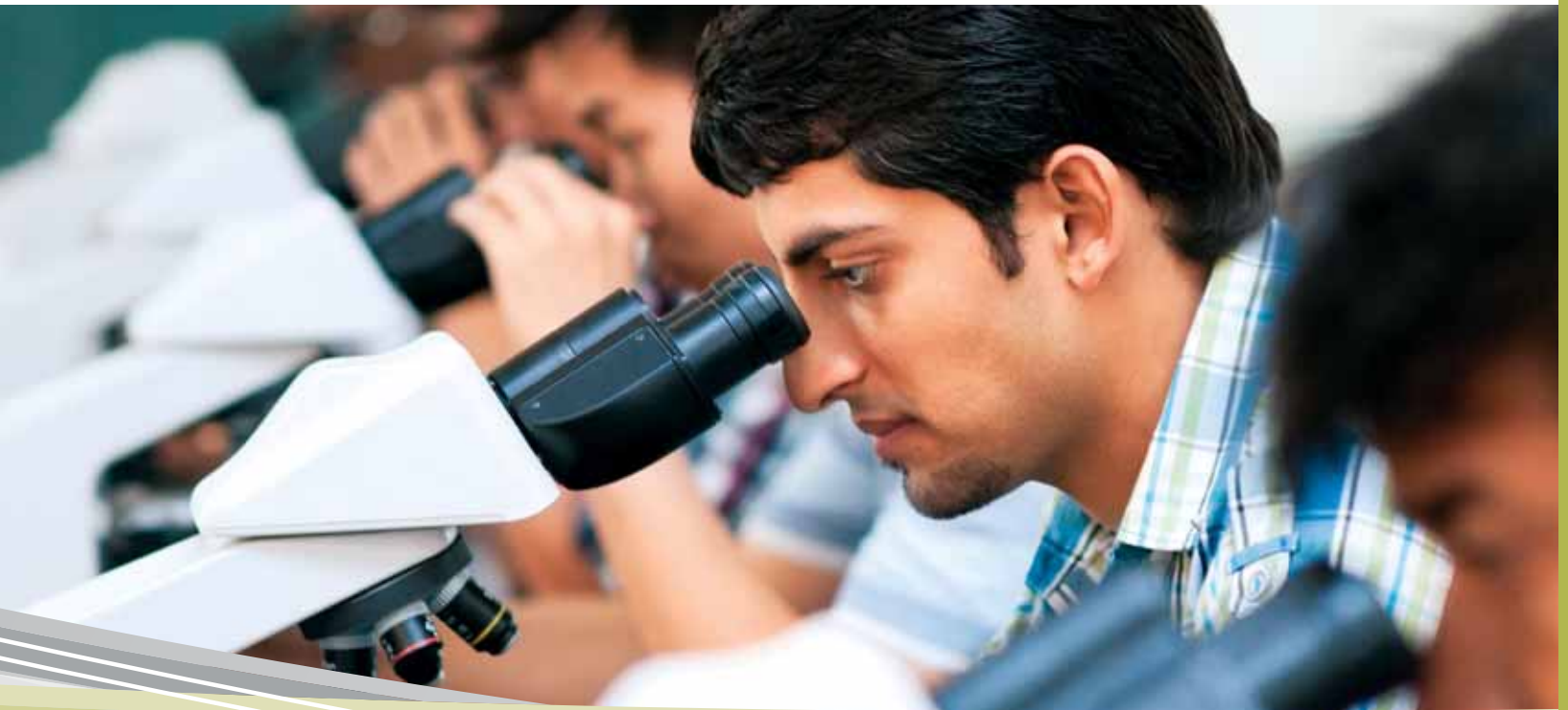
Infectious Diseases Fellowship Program

The Infectious Diseases Fellowship Program at The Warren Alpert Medical School of Brown University is a multi-hospital training program based at The Miriam Hospital and Rhode Island Hospital, as well as at other Alpert Medical School affiliated hospitals. Clinical training is the focus of the first year, with inpatient consultation rotations at the hospitals. Scholarly research is a major focus in the second year of the fellowship, and additional research training opportunities are available following completion of the clinical infectious diseases fellowship.

The Fogarty AIDS International Training and Research Program

The Fogarty AIDS International Training and Research Program (AITRP), funded by the National Institutes of Health – Fogarty International Center, is a collaboration among Brown University, Tufts University and The Miriam Hospital. The program's goals are to:

- Train and mentor foreign scientists in the conduct of ethically sound and scientifically rigorous laboratory, clinical and socio-behavioral research related to HIV/AIDS



- Foster the development of a cadre of international site-specific scientists who can become competent independent researchers and can address critical issues facing their own countries' HIV/AIDS epidemics

AITRP is committed to AIDS research and education in the developing world, and currently supports established research training programs at partner sites in India, the Philippines, Ghana, Kenya and Cambodia.

- India

One of the AITRP's collaborating training sites is YR Gai-tonde Center for AIDS Research and Education in Chennai, India. The center is the largest community-based AIDS service organization in India and currently cares for more than 13,000 people living with HIV. More than a dozen of the center's laboratory, clinical, behavioral and nutritional investigators have received advanced training via AITRP.

Christian Medical College, Vellore is one of the oldest medical schools in India and a major tertiary referral center for the country. The college's trainees have conducted basic laboratory investigations of mucosal immunology and the natural history of cryptosporidiosis and other water-borne parasitic infections in the HIV-infected populations in southern India. They have also done large field studies to understand the impact of HIV and tuberculosis in large census tracts in the communities surrounding Vellore.

- Philippines

Trainees from the University of the Philippines, including physicians and other clinicians, social and behavioral scientists, basic scientists and administrators, have come to Brown University for HIV/AIDS training under the AITRP program. A number of former AITRP trainees now occupy key positions at the university and the major hospitals and have continued to be active leaders in HIV/AIDS research in the Philippines.



- Ghana

The University of Ghana Medical School is affiliated with the Korle-Bu Teaching Hospital, which is home to one of the largest clinics providing care for people living with HIV. Short-term and long-term degree training is provided by the AITRP, with a focus on nursing, pharmacology and nutrition related to HIV.

- Kenya

Our partners in Eldoret, Kenya include Moi University School of Medicine, Moi Teaching and Referral Hospital and AMPATH, the Academic Model Providing Access to Healthcare. AMPATH is one of the largest HIV treatment programs in sub-Saharan Africa, providing care to more than 130,000 HIV-infected persons. Activities include a successful bilateral medical exchange program and multidisciplinary research collaborations.

- Cambodia

The National Center for HIV/AIDS Dermatology and STD (NCHADS) is the Cambodia Ministry of Health body responsible for HIV surveillance, diagnosis, treatment and prevention in Cambodia. AITRP trainees from NCHADS have returned to develop pivotal surveillance projects and participate in development of the national program. Sihanouk Hospital Center of HOPE has one of the largest programs providing HIV care in Cambodia. AITRP trainees have returned to conduct independent studies of the spectrum of disease in newly diagnosed patients, gynecologic complications in HIV-infected women, and the response of plasma and genital tract virus to antiretroviral therapy.

Research Programs

The Division of Infectious Diseases's researchers conduct ongoing studies in a wide variety of areas, including:

Antimicrobial Drug Discovery

Although there is widespread agreement that it is imperative to identify new classes of antibacterial agents, the rate of new antibiotic discovery is unlikely to meet the expected need for the foreseeable future. With the possible exception of tigecycline, fluoroquinolones were the last class of truly broad-spectrum antimicrobials active against both Gram-positive and Gram-negative bacteria developed in the past 40 years. This rate of discovery is

not acceptable given the rapidly increasing prevalence of drug-resistant pathogens.

Antibiotic drug discovery, however, has been limited by numerous obstacles, including the failure to identify new cultivable microorganisms, a high background of toxic compounds or compounds with poor pharmacokinetic properties in synthetic compound libraries, and the inability of most synthetic leads to penetrate across the multi-drug resistance pump barrier of Gram-negative bacteria. Researchers in our division have bypassed some of these obstacles by developing whole-animal, high-throughput screens that utilize the well-studied nematode *Caenorhabditis elegans* as



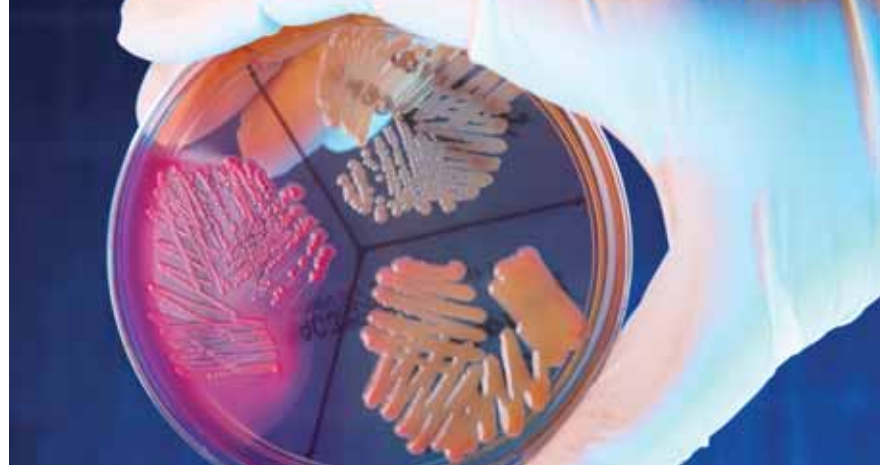
a model host to simultaneously identify new classes of antimicrobials with antivirulence or immunomodulatory efficacy and evaluate toxicity and efficacy.

Bacteriology

Our research in bacteriology focuses on the “ESKAPE” pathogens (*Enterococcus faecium*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa* and *Enterobacter species*), a group that includes some of the most significant microbial pathogens exhibiting antimicrobial resistance. Data from the Centers for Disease Control and Prevention show rapidly increasing rates of infection due to methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant *E. faecium* (VRE), and fluoroquinolone-resistant *P. aeruginosa*. For example, *Staphylococcus aureus* bloodstream infection is associated with high mortality that was calculated at 39 percent for MRSA and 24 percent for methicillin-sensitive *Staphylococcus aureus*. Even in the pediatric age group *Staphylococcus aureus* bacteremia is associated with an estimated annual incidence of 6.5 cases per 100,000 population. Overall, more people now die of MRSA infection in our nation’s hospitals than of HIV/AIDS and tuberculosis combined. As noted above, bloodstream infections that are not treated effectively can result in sepsis. More than 751,000 Americans each year are diagnosed with sepsis with an estimated prevalence of 90.4 cases per 100,000 patients.

Infection Control and Hospital Epidemiology

Rhode Island Hospital infection control and hospital epidemiology research is focused on understanding the epidemiology, pathogenesis, and prevention of health care associated infections. Recent work has focused on MRSA colonization, the impact of chlorhexidine bathing for prevention of nosocomial infections, epidemiology of carbapenemase-producing Enterobacteriaceae, and intravascular catheter infections. Current research projects deal with control and public reporting of nosocomial *Clostridium difficile* infection; epidemiology of extended-spectrum, beta-lactamase-producing, Gram-negative bacterial infections; carbap-



enemase-producing Enterobacteriaceae colonization in patients of skilled care facilities; and the epidemiology and prevention of extraventricular drain neurosurgical infections.

Mycology

The major focus of our work in mycology is the study of fungal pathogenesis. For example, *Candida* spp. can carry several molecular mechanisms that induce resistance to many of the available antifungal agents, including the ability to form an impenetrable biofilm on medical devices. Overall, *Candida* spp. are the fourth leading cause of nosocomial bloodstream infections, and mortality from candidemia is over 30 to 40 percent. A decade ago, the overall excess cost attributable to candidemia was estimated to be greater than \$1 billion per year and more recent studies estimated that in the United States the annual cost for candidemia is greater than \$2 billion per year.

We use molecular biology and surrogate invertebrate hosts to identify novel antifungal compounds and study basic, evolutionarily conserved aspects of fungal virulence and host response. Taken in their totality, our results indicate that a common, fundamental set of molecular mechanisms is employed by fungal pathogens against a widely divergent array of metazoan hosts. These investigations have identified novel virulence factors, cross kingdom pathogen-pathogen interactions, novel antifungal agents, and evolutionarily conserved traits that are involved in host virulence and immune responses during fungal infection.

Basic Virology

Our researchers are interested in several chronic viral infections. Basic studies in HIV are supported by the CFAR laboratory of retrovirology that provides viral load testing, CD4/CD8 T lymphocyte enumeration and drug resistance assays for all research studies. Active areas of research interest include the proteomic and nucleic acid determinants of HIV-1 acquisition and disease progression and the impact of drug and alcohol abuse on HIV infection. Division researchers are supported by core facilities that offer state-of-the-art proteomic and transcriptome analysis; a repository of specimens (tissue, cerebrospinal fluid, plasma, peripheral blood mononuclear cell) obtained from patients infected with HIV, HBV, HCV, human papillomavirus (HPV) or *Helicobacter pylori*; and support for prospective studies of alcohol abuse and HIV natural history.

HIV/AIDS

As part of the **Lifespan/Tufts/Brown Center for AIDS Research (CFAR)**, division researchers engage in clinical, basic and translational research designed to improve the prevention and treatment of HIV/AIDS, with a major focus on women, racial and ethnic minorities, and individuals with substance abuse problems. The Lifespan/Tufts/Brown CFAR is a joint research effort among Brown University and Tufts University and their affiliated hospitals and centers. It is one of 19 centers located at academic medical centers throughout the United States that are part of the national CFAR program of the National Institutes of Health. The program emphasizes the importance of interdisciplinary collaboration, especially between basic and clinical investigators, and also encourages training and mentoring of young investigators, as well as the inclusion of women and minorities.

The Lifespan/Tufts/Brown CFAR consists of seven separate cores and all CFAR members are eligible to utilize core services.

- The Administrative Core provides the administrative infrastructure required to establish and maintain communication

channels among the other cores, provide financial and grant management, and coordinate the strategic planning process.

- The Developmental Core provides developmental awards through a peer-review process to encourage new research and attract new investigators to HIV/AIDS research, as well as to provide mentoring opportunities to junior faculty members.
- The HIV in Women and Underserved Populations Core supports basic and clinical research focusing on understanding the progression of HIV and complications of the disease in women and underserved populations, and on developing better HIV treatments.
- The Prevention Science Core supports HIV prevention research in the biomedical and behavioral sciences—integral partners in the fight against AIDS. The Brown University AIDS Program (BRUNAP) serves as the educational arm of CFAR and falls under the Prevention Science Core.
- The Nutrition, Metabolism and GI Core supports Lifespan/Tufts/Brown CFAR investigators at international sites engaging in research on HIV and nutrition/metabolism, including work in hepatology, pharmacology, cardiovascular disease, neurocognitive function related to nutrition, and applied HIV virology related to clinical outcomes and metabolism.
- The Biostatistics Core provides services, consultation and collaboration related to quantitative aspects of HIV research for faculty affiliates of the Lifespan/Tufts/Brown CFAR.
- The Retrovirology Core supports basic and translational research, including studies of HIV persistence during highly active antiretroviral therapy, the effect of small interfering (si) RNA molecules on viral replication, HIV infection on T lymphocytes, HIV diversity and drug resistance, and HIV infection on neural tissues.

Our Team

Curt G. Beckwith, MD

Co-leader of the Prisoner Health and Human Rights Scientific Program, Lifespan/Tufts/Brown Center for AIDS Research

Infectious Diseases Physician, Rhode Island Hospital and The Miriam Hospital

Associate Professor of Medicine, The Warren Alpert Medical School of Brown University

Director, Brown University Infectious Diseases Fellowship Program

Angela M. Caliendo, MD, PhD

Chief of General Internal Medicine, Rhode Island Hospital and The Miriam Hospital

Executive Vice Chair of the Department of Medicine, The Warren Alpert Medical School of Brown University

Charles C.J. Carpenter, MD

Director, Lifespan/Tufts/Brown Center for AIDS Research

Infectious Diseases Physician, Rhode Island Hospital and The Miriam Hospital

Professor of Medicine, The Warren Alpert Medical School of Brown University



E. Jane Carter, MD

Director, Brown Kenya Exchange Program

Associate Professor of Medicine, The Warren Alpert Medical School of Brown University

Philip A. Chan, MD

Director, HIV/STD Testing and Prevention Services, Infectious Diseases and Immunology Center, The Miriam Hospital

Infectious Diseases Physician, Rhode Island Hospital and The Miriam Hospital

Assistant Professor of Medicine, The Warren Alpert Medical School of Brown University

Mia Coetzer, PhD

Postdoctoral Research Associate, The Miriam Hospital

Assistant Professor of Medicine (Research), The Warren Alpert Medical School of Brown University

Jeffrey Coleman, PhD

Research Scientist, Rhode Island Hospital

Assistant Professor of Medicine (Research), The Warren Alpert Medical School of Brown University

Susan Cu-Uvin, MD

Attending Physician, Infectious Diseases and Immunology, The Miriam Hospital

Director, Global Health Initiative, Brown University

**Staci A. Fischer, MD**

Director of Transplant Infectious Diseases, Rhode Island Hospital

Infectious Diseases Physician, Rhode Island Hospital and The Miriam Hospital

Associate Professor of Medicine, The Warren Alpert Medical School of Brown University

Timothy P. Flanigan, MD

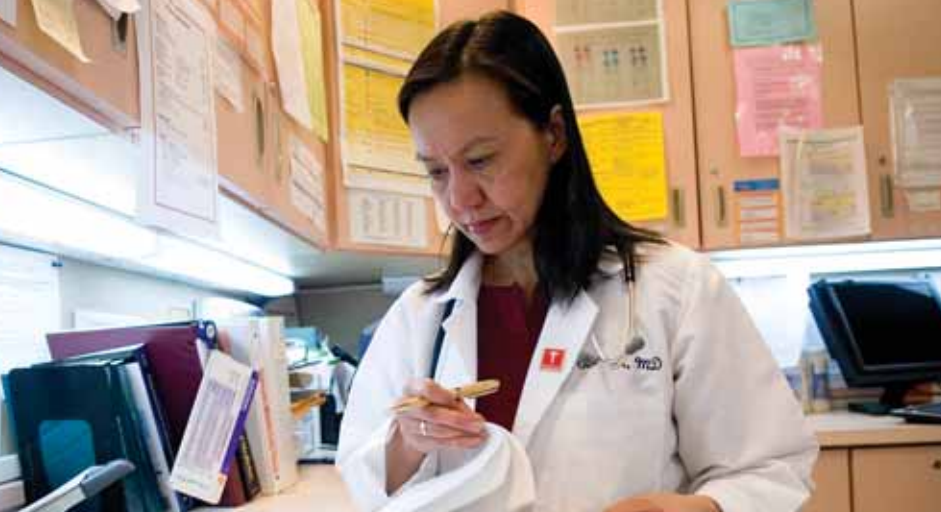
Infectious Diseases Physician, Rhode Island Hospital and The Miriam Hospital

Dean's Professor of Medical Science, Professor of Medicine and Professor of Health Services, Policy and Practice, The Warren Alpert Medical School of Brown University

Mary Flynn, PhD, RD, LDN

Chief Research Dietitian, The Miriam Hospital

Associate Professor of Medicine (Clinical), The Warren Alpert Medical School of Brown University



Helen E. Burgwyn Fuchs, PhD

Research Scientist, Rhode Island Hospital

Fizza Gillani, PhD

*Center for AIDS Research, The Miriam Hospital
Assistant Professor of Medicine (Research), The Warren Alpert
Medical School of Brown University*

Stephen H. Gregory, PhD

*Research Associate, Rhode Island Hospital
Associate Professor of Medicine (Research), The Warren Alpert
Medical School of Brown University*

Erica Hardy, MD, MMSc

*Attending Physician in Infectious Diseases,
The Miriam Hospital
Assistant Professor of Medicine (Clinical), The Warren Alpert
Medical School of Brown University*

Austin Huang, PhD

*Postdoctoral Research Associate, The Miriam Hospital
Assistant Professor of Medicine (Research), The Warren Alpert
Medical School of Brown University*

Rami Kantor, MD

*Internal Medicine and Infectious Diseases Physician, Rhode
Island Hospital and The Miriam Hospital
Director of Research, Brown-Kenya Program
Director, Immunology Center and HIV Drug Resistance Labo-
ratory, The Miriam Hospital
Associate Professor of Medicine, The Warren Alpert Medical
School of Brown University*

Bettina M. Knoll, MD, PhD

*Infectious Diseases Physician, Rhode Island Hospital and
The Miriam Hospital
Assistant Professor of Medicine (Clinical), The Warren Alpert
Medical School of Brown University*

Erna Milunka Kojic, MD

*Director, Infectious Diseases and Immunology Center,
The Miriam Hospital
Associate Professor of Medicine, The Warren Alpert Medical
School of Brown University*

Awewura Kwara, MD, MPH

*Infectious Diseases Specialist in Public Health and Tropical
Medicine, The Miriam Hospital
Associate Professor of Medicine, The Warren Alpert Medical
School of Brown University
Co-director, Brown University-University of Ghana Higher
Education Initiative for HIV/AIDS*

Michelle A. Lally, MD

*Director, Brown University AIDS Program (BRUNAP),
The Miriam Hospital
Associate Professor of Medicine and Associate Professor of
Health Services, Policy and Practice Medicine, The Warren
Alpert Medical School of Brown University*

Jerome M. Larkin, MD

*Director, Inpatient Infectious Diseases Consultation Service,
Rhode Island Hospital*

*Assistant Professor of Medicine (Clinical), The Warren Alpert
Medical School of Brown University*

Ming Li, PhD

Research Fellow, Rhode Island Hospital

*Assistant Professor of Medicine (Research), The Warren Alpert
Medical School of Brown University*

John R. Lonks, MD

*Infectious Diseases Emergency Medicine Physician, Rhode
Island Hospital and The Miriam Hospital*

*Associate Professor of Medicine, The Warren Alpert Medical
School of Brown University*

Leonard A. Mermel, DO, ScM

*Medical Director, Department of Epidemiology and Infection
Control, Rhode Island Hospital*

*Professor of Medicine, The Warren Alpert Medical School of
Brown University*

Maria D. Mileno, MD

Director, Travel Clinic, The Miriam Hospital

*Associate Professor of Medicine, The Warren Alpert Medical
School of Brown University*

Brian Montague, DO, MS, MPH

HIV and Viral Hepatitis Care, The Miriam Hospital

*Assistant Professor of Medicine, The Warren Alpert Medical
School of Brown University*

Eleftherios Mylonakis, MD, PhD

*Chief of Infectious Diseases, Rhode Island Hospital and
The Miriam Hospital*

*Dean's Professor of Medical Sciences, The Warren Alpert Medi-
cal School of Brown University*

Amy Nunn, ScD

Research Scientist, The Miriam Hospital

*Assistant Professor of Medicine and Assistant Professor of
Public Health, The Warren Alpert Medical School of
Brown University*

Bharat Ramratnam, MD

*Director, COBRE Center for Cancer Research Development,
Rhode Island Hospital*

*Attending Physician, Rhode Island Hospital and
The Miriam Hospital*

*Associate Professor of Medicine, The Warren Alpert Medical
School of Brown University*

Aadia Rana, MD

*Director, Immunology Center Adherence and Retention
Program (ICARE), The Miriam Hospital*

*Internal Medicine and Infectious Diseases Physician,
Rhode Island Hospital and The Miriam Hospital*

*Assistant Professor of Medicine, The Warren Alpert Medical
School of Brown University*

Louis B. Rice, MD

*Physician-in-Chief of Medicine, Rhode Island Hospital and
The Miriam Hospital*

*Chairman of Medicine and Joukowsky Family Professor
of Medicine, The Warren Alpert Medical School of
Brown University*

Josiah D. Rich, MD, MPH

*Director, Center for Prisoner Health and Human Rights,
Immunology Center, The Miriam Hospital*

*Professor of Medicine and Epidemiology, The Warren Alpert
Medical School of Brown University*

Xiaoli Tang, PhD

Research Associate, Rhode Island Hospital

*Assistant Professor of Medicine (Research), The Warren Alpert
Medical School of Brown University*

Karen T. Tashima, MD

*Director, HIV Clinical Studies and Clinical Research Site
Leader of the AIDS Clinical Trials Unit, The Miriam Hospital*

*Professor of Medicine, The Warren Alpert Medical School of
Brown University*

Lynn E. Taylor, MD

*Director, HIV/Viral Hepatitis Co-infection Program,
The Miriam Hospital*

*Assistant Professor of Medicine, The Warren Alpert Medical
School of Brown University*

Allan R. Tunkel, MD, PhD, MACP

*Infectious Diseases Physician, Rhode Island Hospital and
The Miriam Hospital*

*Professor of Medicine and Associate Dean for Medical Educa-
tion, The Warren Alpert Medical School of Brown University*

Jacob van den Berg, PhD

Research Scientist, The Miriam Hospital

*Assistant Professor of Medicine (Research), The Warren Alpert
Medical School of Brown University*

Edward J. Wing, MD

Infectious Diseases Specialist, The Miriam Hospital

*Professor of Medicine, The Warren Alpert Medical School of
Brown University*

Nickolas D. Zaller, PhD

Research Associate, The Miriam Hospital

*Assistant Professor of Medicine (Research), The Warren Alpert
Medical School of Brown University*

Panagiotis Ziakas, MD, PhD

Research Scientist, Rhode Island Hospital

*Instructor in Medicine (Research), The Warren Alpert Medical
School of Brown University*



Rhode Island Hospital
The Miriam Hospital

Lifespan Partners

Rhode Island Hospital
593 Eddy Street
Providence, RI 02903

The Miriam Hospital
164 Summit Avenue
Providence, RI 02906