

# HJF <sup>FY2022</sup> IMPACT REPORT



Committed to Military Medicine



# FY2022 Impact Report

## Table of Contents

Welcome Letter	1
Leadership and Council of Directors	3
Our Impact	7
Financials	21

## Welcome

At HJF, we are committed to advancing military medicine. We do this in several ways that impact service members, veterans, and civilians throughout the nation and around the world. Our research teams work diligently for our partners, whether tackling vaccine development, purchasing specialized lab equipment, or hosting scientific meetings.

Nearly four decades ago, Congress authorized HJF. Today, we remain true to our noble mission enshrined in federal statute. We were established to support research and education at the Uniformed Services University of the Health Sciences or “USU,” and throughout the military and we continue to function as a vital link, indeed, the “connective tissue,” between the military medical community and our federal and private partners. Through our scientific, management and administrative services, we provide military, medical, academic, clinical, and global clients the support they need to conduct a myriad of research endeavors.

To remain efficient, effective, and relevant, HJF made important leadership changes in FY22. We welcomed retired Army Colonel Stephen Dalal as HJF’s Vice President of U.S. Research Development. He is responsible for HJF’s role in domestic clinical research and education programs. His responsibilities include oversight of HJF programs in Service Labs, Military Treatment Facility-based research, and our DoD POW/MIA Accounting Agency (DPAA) partnership. Nadine Malloy, an Army veteran and longstanding leader at HJF, was promoted to Chief Human Resources Officer. Her experience with many of our programs throughout the years has proven invaluable in her new role, ensuring our HR processes provide our partners exceptional service and focusing on employee engagement during a challenging time for staffing of scientific roles.

As part of our mission to advance military medicine through the transfer of knowledge and practices to serve both military and civilian populations, HJF spearheaded the construction of a top-notch facility at the direction of a federal partner to enable meetings, collaboration, and training at HJF’s Home Office campus. The new facility gives nearly 200 people access to the newly named Bethesda Auditorium, allowing clear communication among all attendees, whether in-person or virtual from anywhere in the world. We are excited to have USU and others make full use of this and other conference rooms in our expanding HJF Conference Facility.

As you read this report, you’ll learn that military medicine touches every aspect of health and wellness, from protection and prevention to treatment and care. Our 3,000 employees, primarily located in laboratories and military medical sites around the world, take on the world’s toughest medical challenges facing our nation’s warfighters, with the goal of making a positive impact for both military and civilian health. We look forward to another year of positive impact and innovation in military medicine around the world.



A handwritten signature in blue ink that reads "Joseph Carvalho, Jr." The signature is fluid and cursive.

Joseph Carvalho, Jr., M.D.  
President and CEO

# About HJF

## Supporting our Military Medical Experts

Since 1983, the Henry M. Jackson Foundation for the Advancement of Military Medicine (HJF) has provided scientific, administrative and management expertise to empower investigators and clinicians with the resources they need to accelerate military medicine for all of us. Military medicine touches the cornerstones of human health and wellbeing. The innovations and discoveries made through our military medical leaders make their way to our lives—from fields such as infectious diseases (like COVID-19) to cancer to traumatic injury treatment. Military medicine has the unique position of using the lessons and skills learned from combat, then translating the scientific discoveries into changes that benefit civilians around the world.

### Impact of Military Medicine

Many are not aware of the positive impact military medicine has on the general public, as well as service members, veterans, and their families. For a recent example, consider how military medicine responded to the COVID-19 pandemic. The military medical ecosystem pivoted from pre-COVID work to fight the coronavirus in many ways, including diagnosing, treating, and preventing the disease, while also streamlining processes to move quickly for the greater good.

To shine a light on the value of military medicine, HJF compiled an anthology of impact stories that showcase sample case studies from various federal agencies.

<https://www.hjf.org/milmedimpact/pandemicresponse>

The U.S. Congress authorized the creation of the Foundation for the Advancement of Military Medicine in 1983, later named in honor of Washington Senator Henry M. Jackson, a strong proponent of both USU and military medical research. Today, HJF's team holds steadfast to the federal statutes that mandate the following core functions:

- Support research and education at the Uniformed Services University of the Health Sciences (USU) and throughout the military medical community
- Serve as a link between military researchers and the private sector
- Encourage the participation of the medical, dental, nursing, veterinary and other biomedical sciences for the mutual benefit of military and civilian medicine

HJF is committed to serving as the vital link between the military medical community and our federal and private partners. Every year we renew our mission that was given to us nearly 40 years ago by supporting our military medical leaders, ensuring they have what they need to always move forward, and providing them with the necessary tools to perform their scientific research without administration or management concerns.



**98.6%**  
of expenses  
go to the mission



# Leadership and Council of Directors



# HJF Executives



**Joseph Carvalho, Jr., M.D.,  
MG, USA (Ret.)**  
President and Chief  
Executive Officer



**Elizabeth "Betsy" Folk, MBA**  
Executive Vice President,  
Chief Operating Officer



**Catherine M. Clark, J.D.**  
Senior Vice President,  
General Counsel and  
Secretary



**Cynthia L. Gilman, J.D.**  
Senior Vice President,  
Strategic Initiatives



**Nadine Malloy**  
Senior Vice President, Chief  
Human Resources Officer



**Corey Hastings, MBA, CPA**  
Senior Vice President,  
Chief Financial Officer  
and Treasurer



**Merlin Robb, M.D., LTC**  
Vice President,  
Chief Medical Officer



**La Shaun J. Berrien, Ph.D.**  
Vice President, Research  
Administration & Innovation  
Management



**Jessica A. Bejarano, J.D.**  
Vice President, Chief Ethics  
and Compliance Officer



**Marc De Serio, M.S.**  
Vice President,  
Chief Information Officer



**Hilary Longo, M.S.**  
Vice President,  
Chief Communications  
Officer



**Andrea M. Stahl, Ph.D.,  
COL, USA (Ret.)**  
Vice President, Uniformed  
Services University of the  
Health Sciences Operations



**Sandhya Vasan, M.D.**  
Vice President,  
Global Infectious Diseases  
Research



**Tiffany Hamm, Ph.D.**  
Vice President, Global  
Research Development



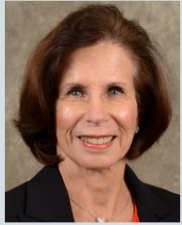
**Stephen Dalal, DVM, COL,  
USA (Ret.)**  
Vice President, U.S.  
Research Development

[www.hjf.org/leadership](http://www.hjf.org/leadership)



# HJF Council of Directors

## Appointed Directors:



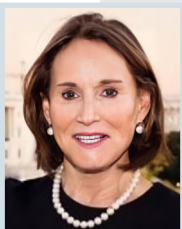
The Honorable  
Gail R. Wilensky, Ph.D.  
Chair



Ronald Blanck, D.O., LTG,  
USA (Ret.)



John ("Jay") Paxton, Jr.,  
Gen., USMC (Ret.)



Sid Ashworth, MBA



Elder Granger, M.D., MG,  
USA (Ret.)



Thomas W. Weston, Jr., CPA

## Ex-Officio Directors:



Senator Jim Inhofe



U.S. Representative  
Salud Carbajal  
(D-California)



The Honorable Jonathan  
Woodson, M.D., MG, USAR  
(Ret.)



Senator Jack Reed



U.S. Representative  
Scott DesJarlais, M.D.  
(R-Tennessee)

## Emeriti Directors:



Philip A. Odeen  
Chair Emeritus



The Honorable  
Beverly Byron



The Honorable  
John H. Dressendorfer

[www.hjf.org/council-directors](http://www.hjf.org/council-directors)

# HJF Honors

## Heroes of Military Medicine

HJF hosted its annual Heroes of Military Medicine Awards on May 5, 2022. It marked the 11th anniversary of the event, which recognizes outstanding contributions by senior leaders, medical professionals, and civilians who have distinguished themselves through excellence and dedication to advancing military medicine and enhancing the lives and health of our nation's wounded, ill, and injured service members, veterans, their families, and civilians.

The 2022 honorees included three military medical professionals from the Army, Navy, and Air Force. In addition, a Civilian Award, Senior Leader Award, and Ambassador Award were also presented:

**Army:** Colonel (Doctor) John Csokmay

**Navy:** Lieutenant Commander (Doctor) Daniel Hammer

**Air Force:** Colonel (Doctor) Vik Bebart

**Civilian:** Michael A. Helwig, M.D.

**Senior Leader Award:** Army Chief of Staff General James C. McConville (accepting on behalf of the soldiers who responded to the COVID-19 pandemic)

**Ambassador Award:** The Air Force's 379th Expeditionary Medical Group

<https://www.hjf.org/hmm>



*"One of my favorite things about the Heroes of Military Medicine Awards is getting to meet the honorees and celebrate their many accomplishments," said Dr. Joseph Caravalho, HJF President and CEO. "They have each truly distinguished themselves through their selfless service to, and phenomenal accomplishments within, military medicine."*

### Employee Spotlight:

Keila Diaz, Program Administrative Specialist USU

"Keila Diaz is an outstanding employee and received a Superior Performance Award for her support of the USU Human Anatomic Material Research Committee."



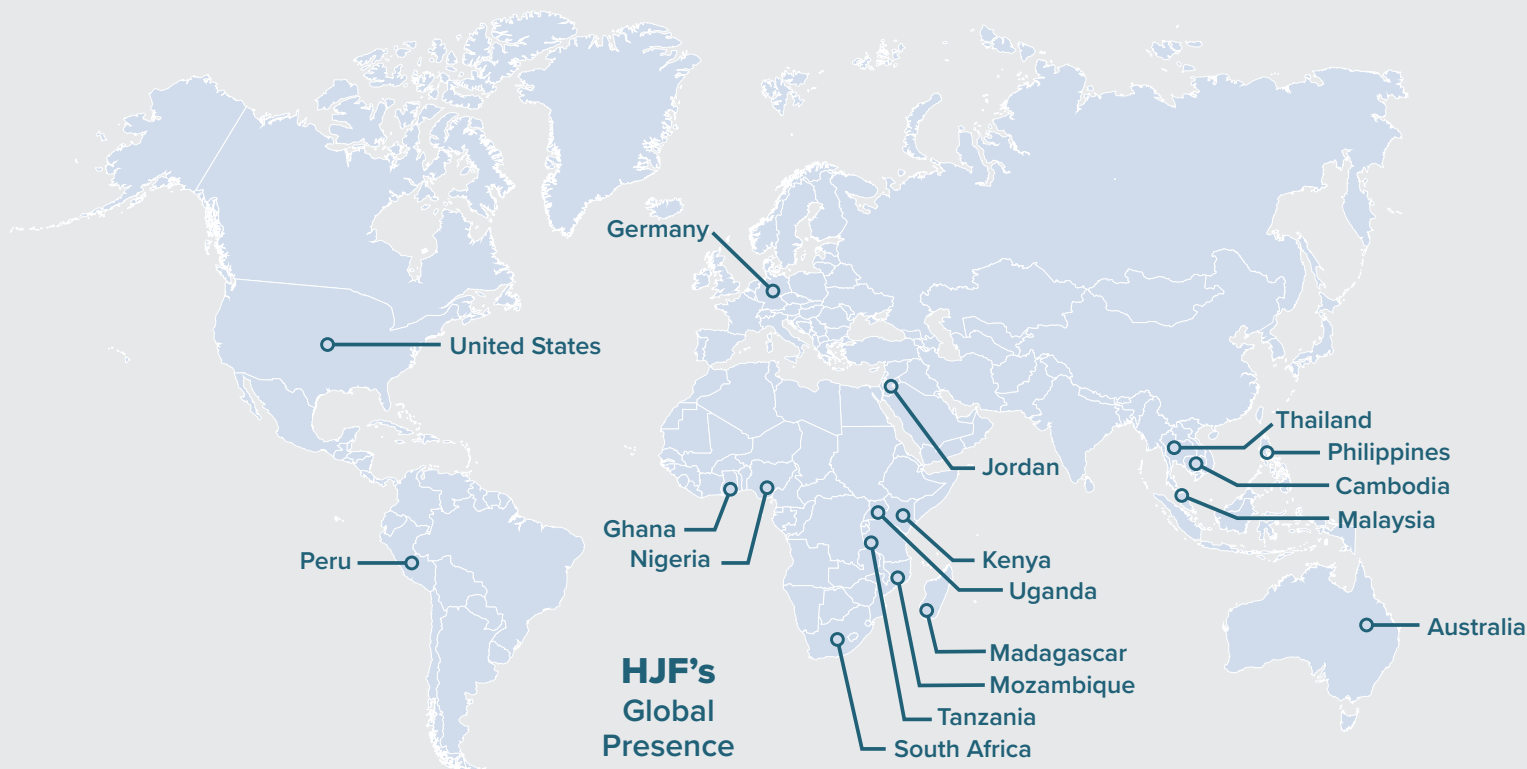
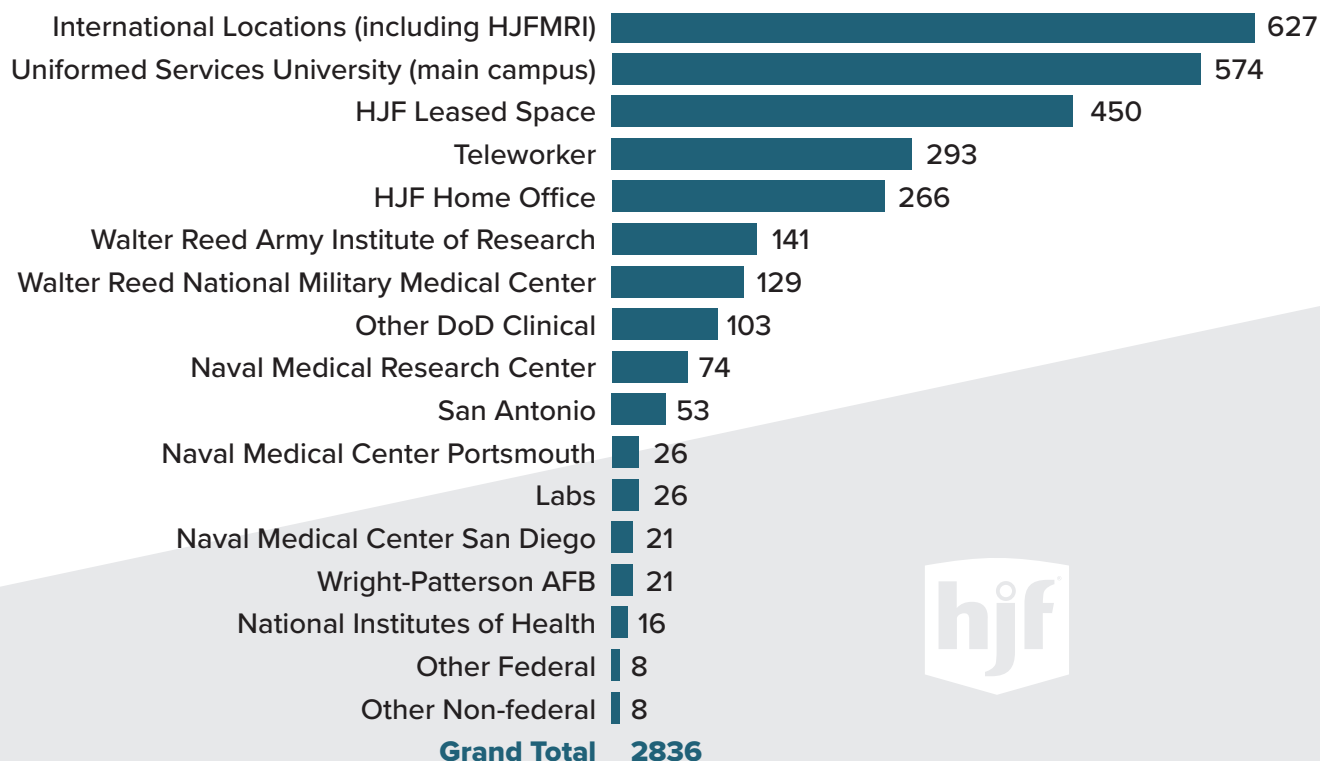


# Our Impact



# HJF: By the Numbers

## Where We Work



\*does not include CAMRIS or Topsail subsidiaries.



## USU: Celebrating 50 Years

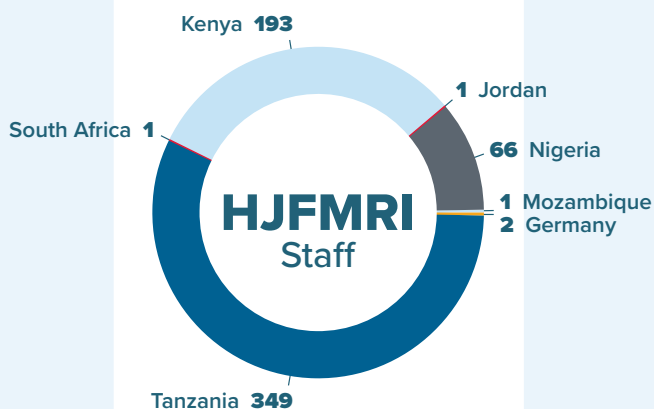
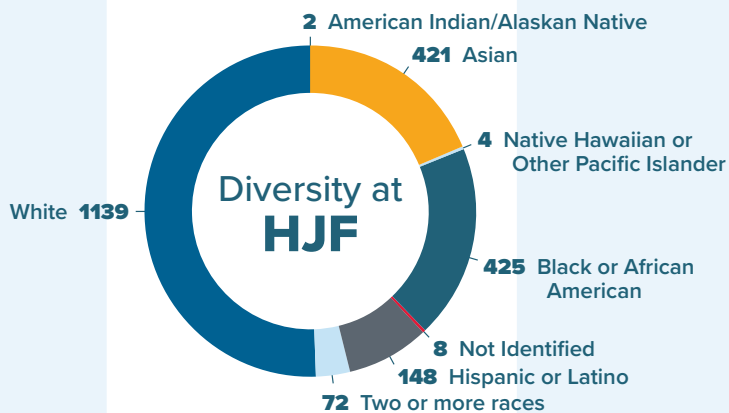
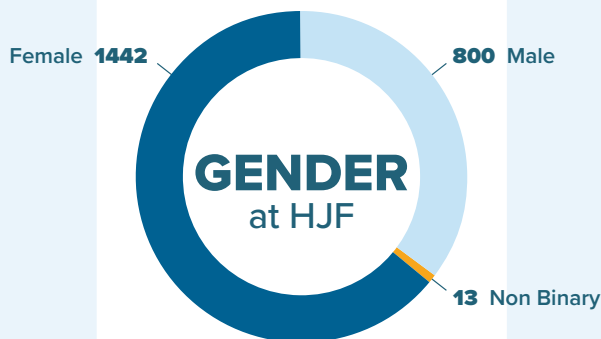
Since 1972, the Uniformed Services University of the Health Science (USU)—the nation’s only federal health sciences university—has educated uniformed health professionals. In 2022, they celebrated 50 years of research excellence.



As with HJF, Congress played a part in the creation of USU. USU, championed by Louisiana Congressman F. Edward Hébert as the “West Point for doctors,” was established as a component of Uniformed Services Health Professions Revitalization Act. The legislation directed the Defense Secretary to establish a Department of Defense medical school within 25 miles of Washington, D.C.

USU’s mission is to support the readiness of America’s Warfighter and the health and wellbeing of the military community by educating and developing uniformed health professionals, scientists and leaders; by conducting cutting-edge, military-relevant research; and by providing operational support to units around the world.

HJF is closely aligned to USU through federal statute authorizing HJF to carry out medical research and education projects with USU. Today, we continue this support directly, while also taking advantage of our unique position to encourage the interchange between military and civilian medical personnel.





# HJF Partnerships

## Convening and Collaborating

HJF participated in several events in FY22 to inform the local scientific community, federal agencies, and other collaborative institutions about significant health sciences research projects conducted across the Uniformed Services University of the Health Sciences (USU) and its affiliates.

On April 20, 2022, HJF co-hosted—along with USU and the Walter Reed Army Institute of Research—COVID-19 Research Day, which initially convened in 2021. These virtual events brought together DoD scientists and clinicians who have been performing critical research to detect, diagnose, treat, and prevent COVID-19.

On May 17-18, HJF also participated in USU Research Days, with its 2022 theme of “Celebrating 50 Years of Research Excellence.” The poster presentations, invited speakers, and panels demonstrated the special role of USU in civilian, military, and public health research initiatives across the health sciences.

In addition, HJF hosted two Leadership Roundtables in FY22. Each of the roundtables, which took place at HJF’s Home Office in Bethesda, Maryland, focused on COVID-19 and featured top military and civilian scientists. Those attending included representatives from the White House, Congress, Department of Defense, industry, and academia

“HJF’s Leadership Roundtable is intended to bring together leaders in the public and private sectors to discuss topics related to military and veteran health,” said Dr. Joseph Carvalho, HJF President and CEO. “The goal is to generate discussions to identify research gaps related to military, veteran, and civilian health and, ultimately, to develop synergy between public and private sectors to best address these issues.”

**39**  
**Years**  
in operation

**13,850+**  
**Awards**  
managed

**85**  
**Active**  
clinical trials

**40%**  
**6 of 15**  
of our executives are doctors  
(M.D. and Ph.Ds)



# Brain Injury Research

## CTE Not Commonly Found in Service Members

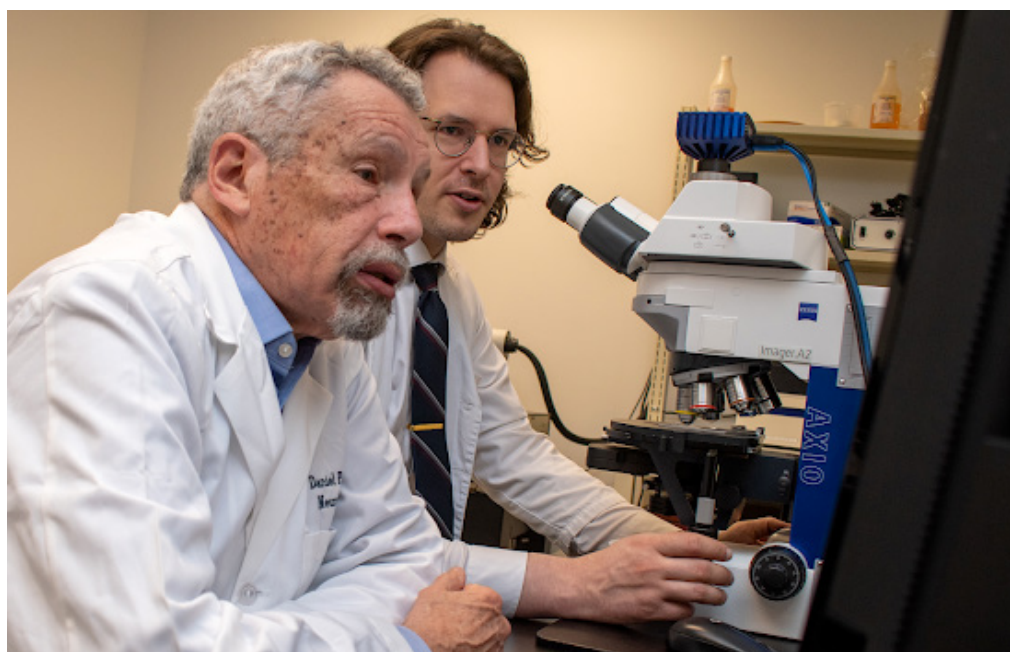
A study completed in collaboration between HJF and the Center for Neuroscience and Regenerative Medicine at the Uniformed Services University of the Health Sciences (USU)

found that chronic traumatic encephalopathy (CTE) is uncommon among service members—even those who have been exposed to blasts—and is more strongly linked to civilian traumatic brain injuries related to contact sports like football and boxing.

The study, “Chronic Traumatic Encephalopathy in the Brains of Military Personnel,” was led by HJF scientist Dr. David Priemer, a neuropathologist and Assistant Professor of Pathology at USU, and Dr. Daniel Perl, Professor of Pathology at USU and Director of the Department of Defense/USU Brain Tissue Repository. The study was published in the New England Journal of Medicine and funded by the Defense Health Agency.

“As our service members who have been exposed to blasts age, it remains possible that they may develop CTE or CTE-like pathology, though our study suggests that this may not occur,” said Dr. Priemer. “Regardless, our data indicate that CTE currently is not very common among service members and does not seem to be an underlying factor in the large majority of service members who suffer persistent neuropsychiatric symptoms following combat exposure.”

“We believe our findings provide some answers surrounding this condition and how it does, or does not, impact our service members,” concluded Dr. Perl.



### Employee Spotlight:

#### Nam Kim, IT Support Technician II WRAIR

“Nam (Eric) Kim is a highly valued member of the Global-ID team and is known for his attention to detail.”

# Cancer Research

## A New Approach to Fighting Prostate Cancer

Prostate cancer is the second leading cause of cancer deaths for men in the United States, and annually kills more than one million people around the world. Sadly, projections for prostate cancer predict alarming increases not seen in the past two decades.

Surgery, radiation therapy, and active surveillance are the primary treatment regimens for prostate cancer. For advanced cases, the main treatment is androgen deprivation therapy. However, in 2022, researchers at the Center for Prostate Disease Research at the Uniformed Services University of the Health Sciences (USU) developed a potent new drug that could help treat a common type of prostate cancer that affects 50 percent to 65 percent of men.

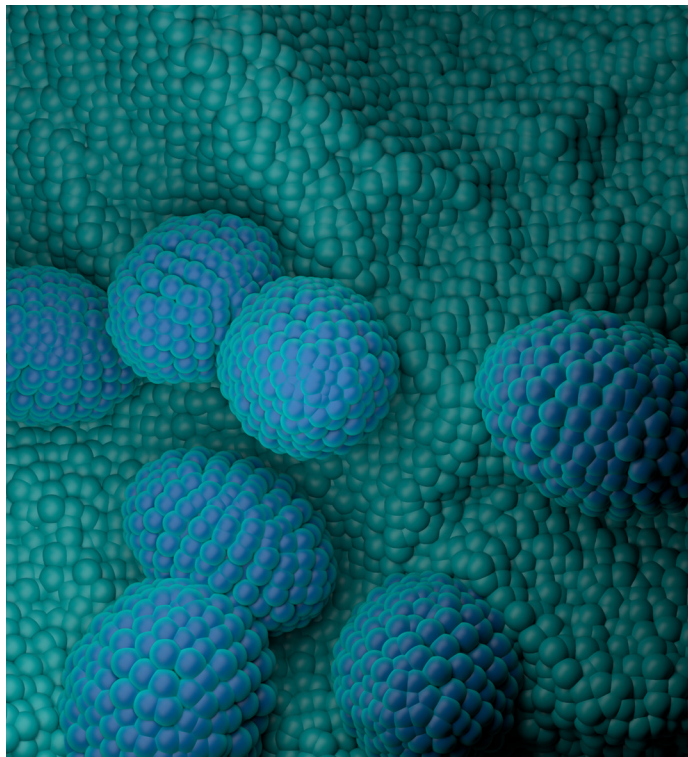
According to Binil Eldhose, lead author of the study, they have identified a gene—the erythroblast transformation-specific gene (or ERG)—that can fuse with others to form

a cancer-causing gene mutation that complicates prostate disease treatments. ERG helps activate cell invasion and facilitates a broad range of cancer cell survival mechanisms. “This behavior can contribute to the progression of prostate cancer,” he said.

Approximately half of primary prostate cancers harbor gene fusions. In collaboration with the Oregon Health and Science University, Eldhose and his research team focused on an improved procedure

for selective targeting of ERG harboring prostate cancer cells. Further research enabled them to develop the new ERG inhibitor ERGi-USU-6.

The research was announced in an article published in the American Chemical Society Medicinal Chemistry Letters. These studies as well as the unprecedented prevalence and emerging mortality reports for prostate cancer provide a strong rationale for the development of ERG-targeted therapies.



### Employee Spotlight:

#### Immanuel Babu Henry Samuel, Research Bioengineer Scientist, Veterans Affairs Medical Center

“Dr. Samuel is an integral part of the WRIISC, Washington, D.C. Veteran Affairs Medical Center team and collaborates on projects that aim to improve Veteran health. He also works with scientists within the VA as well as with DoD and University partners to develop novel health monitoring solutions, characterize remote interventions and leverage large-scale health data to provide meaningful insights.”





# Trauma Therapy

## Recovering from Trauma with Creative Arts Therapies

Creative Forces®: NEA Military Healing Arts Network is an initiative of the National Endowment for the Arts (NEA) in partnership with the U.S. Department of Defense (DoD) and Veterans Affairs (VA) that seeks to improve the health, well-being, and quality of life for military and veteran populations exposed to trauma, as well as their families and caregivers. The initiative was established in 2011, when the NEA teamed with the DoD to increase access to creative arts therapies and advance understanding of the role these therapies play in healing the signature wounds of war: traumatic brain injury (TBI), post-traumatic stress disorder (PTSD), and associated psychological conditions. In 2017, Creative Forces extended these efforts through partnership with the VA.

Creative Forces, which is managed in partnership with HJF, Americans for the Arts, and Mid-America Arts Alliance, places creative arts therapists (art therapists, music therapists, and dance/movement therapists) into interdisciplinary treatment teams dedicated to providing patient-centered care by addressing mind, body, and spirit; seeking to improve resilience and well-being; and supporting symptom management. There are 12 Creative Forces sites located at DoD and VA medical treatment facilities across the United States. These sites offer creative

arts therapies through individual and group sessions delivered in-person as well as via telehealth. Since 2017 when Creative Forces started to collect data across its network, they have served 17,324 patients during 96,448 total encounters (generally between 4-10 encounters for each patient).

The research team funded by Creative Forces teams, through four new pilot studies guided by a clinical research framework and a five-year agenda, are investigating the impact and the benefits—physical, social, and emotional—of art therapy and music therapy for service members and veterans recovering from trauma. Outcomes of particular interest are relief of chronic pain and improved emotional regulation.

“This research, made possible via our partnership with the NEA, represents a unique opportunity to advance art therapy and music therapy by investigating these non-pharmacological clinical interventions and how they can be leveraged to enhance the well-being of military populations,” said Dr. Joseph Carvalho, HJF President and CEO. “HJF is proud to be part of this innovative research.”

A research team from the University of Pennsylvania and the National Intrepid Center of Excellence (NICoE) is investigating art therapy and emotional well-being in military populations with PTSD. The University of Florida, Drexel University, and the Malcom Randall VA Medical Center are studying the extent to which art therapy decreases PTSD symptoms after TBI and how it improves self-regulation and affects related indicators of neurophysiological response.

Another research team from Drexel University and Joint Base Elmendorf-Richardson is examining group music therapy for chronic pain management in service members with co-morbid chronic pain and mild TBI. The Indiana Institute for Medical Research in collaboration with the Richard L. Roudebush VA Medical Center is investigating the integration of music therapy and guided imagery as a pain management strategy.

For more information about Creative Forces, visit <https://www.creativeforcesnrc.arts.gov>.



Photo courtesy of Danielle Kalseth.

# Overseas Support

## U.S. Army Medical Research Directorate – Africa

Since 2010, HJF has managed the Overseas Support Activities for the U.S. Army Medical Research Directorate – Africa (USAMRD-A) Infectious Disease Surveillance Program in sub-Saharan Africa, through funding from the U.S. Department of Defense, Armed Forces Health Surveillance Division, Global Emerging Infections Surveillance (GEIS) Branch. Surveillance is performed using an extensive multi-site network with clinicians and laboratory technicians/technologists trained on subject recruitment and specimen handling and analysis. The health information from this program is shared with each country's Ministry of Health (MoH) and other local partners to inform medical and public health systems. This information helps global health and soldier health by identifying threats which may be encountered by travelers heading to and departing from these countries.

Infectious disease outbreaks have become more frequent, with devastating effects, from the loss of life to economic devastation. The global SARS-CoV-2 pandemic reinforced the need to have a robust disease surveillance network and a rapid outbreak response capability to arrest the spread of disease and minimize the impact. Furthermore, there is a growing need from the military partners in host nations for additional training to prepare for outbreak threats. Under this program, when cases are diagnosed in a specific area, an outbreak response is triggered to stop the spread of an infectious disease swiftly to minimize infections. During FY22, the GEIS team quickly responded to two outbreaks by coordinating the response of entomology surveillance teams and procuring supplies for 10-day excursions to different Kenyan regions.

**1283**  
**Active**  
human and animal studies

### Yellow Fever Outbreak in Isiolo

On March 4, 2022, the Kenya MoH declared a yellow fever outbreak in the county of Isiolo in central Kenya, and by March 8, the Kenya Defense Force (KDF) requested assistance from the HJF-supported entomology study team from the Kenya Medical Research Institute (KEMRI) to respond. Yellow fever is an epidemic-prone, mosquito-borne, vaccine-preventable arboviral disease. The team quickly







responded and conducted entomological collections targeting *Aedes* mosquitoes, collecting eggs and conducting larval and pupal surveys. The team also collected mosquitoes, ticks, and sand flies for the vector-borne illnesses (VBI) surveillance protocol, as well as conducted morphological identification of mosquitoes that were collected.

### Increase of Dengue cases in Mombasa and Manda Bay

On Feb. 23, 2022, the KDF requested assistance in managing a dengue fever outbreak along the Kenyan coastal region. Dengue fever is a viral infection transmitted to humans through the bite of infected mosquitoes occurring in tropical and subtropical areas. The entomology study team quickly began entomological collections inside and outside the Mtongwe military facility targeting *Aedes* mosquitoes, collecting eggs and conducting larval and pupal surveys. As part of their work, they also collected mosquitos, ticks, and sand flies in Kwale County for the vector-borne illnesses (VBI) pathogen surveillance study, conducted morphological identification of mosquitoes collected, and provided entomology protocol training for KDF staff.

“HJF’s expeditious support to local partners—in cases such as these—helps to quickly identify the source of the outbreak limiting the risk for further spread,” said Christopher Murage, Kenya GEIS Program Manager. “Rapid case detection and response are key to ending disease outbreak through efficient surveillance and laboratory work, effective coordination, and a strong response team.”



#### Employee Spotlight:

**Irene Akaranga, Regional Regulatory Manager,  
Nairobi Kenya**

“Irene Akaranga is the Regional Regulatory Affairs Manager for HJFMRI and is based in Nairobi, Kenya. She is an exemplary employee that always goes above and beyond in all that she does.”

# Vaccine Research

## CAMRIS Participates in Army's Vaccine Research

CAMRIS International, LLC, an HJF company, supported COVID-19 vaccine research led by the Walter Reed Army Institute of Research (WRAIR). The research is focused on the Army's vaccine candidate, Spike Ferritin Nanoparticle (SpFN), to combat SARS-CoV-2. The vaccine is a nanoparticle vaccine based on a ferritin platform manufactured in WRAIR's Pilot Bioproduction Facility (PBF), located in Silver Spring, Maryland.

CAMRIS currently provides PBF operational support through an Other Transaction Authority (OTA) agreement, as WRAIR's key manufacturing partner. "CAMRIS is particularly proud to support WRAIR's Pilot Bioproduction Facility in combatting the scourge of COVID-19," said Brad Sepp, CAMRIS

Vice President of Programs and Pilot Bioproduction Facility Program Manager.

Established in 1953 as the Department of Biologics Research, the WRAIR PBF specializes in developing vaccines and biologics for military-relevant infectious disease threats. Following extensive renovations in 2020, it consists of 12,500 square feet of labs and support areas, including 9,000 square feet of cleanroom space.

WRAIR PBF support has been critical to the development efforts of the Department of Defense in the advancement of numerous vaccines. These vaccines include those for hepatitis A, meningitis, dengue fever, malaria, adenovirus, Japanese encephalitis, shigellosis, and Zika.





# Infectious Disease

## HJFMRI Provides Preventive HIV and COVID Services in Africa

Since 2005, HJF Medical Research International (HJFMRI) has implemented the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) HIV prevention, care, and treatment services across four countries in Africa. Though COVID presented a new challenge for those populations, HJFMRI's longstanding efforts and infrastructure ensured a resilient, capable response as staff in Tanzania and Nigeria worked to provide COVID vaccinations alongside a full slate of HIV programs.

HJFMRI's PEPFAR activities, including community initiatives, are implemented under the U.S. Military HIV Research Program (MHRP) at the Walter Reed Army Institute of Research with funding from PEPFAR.

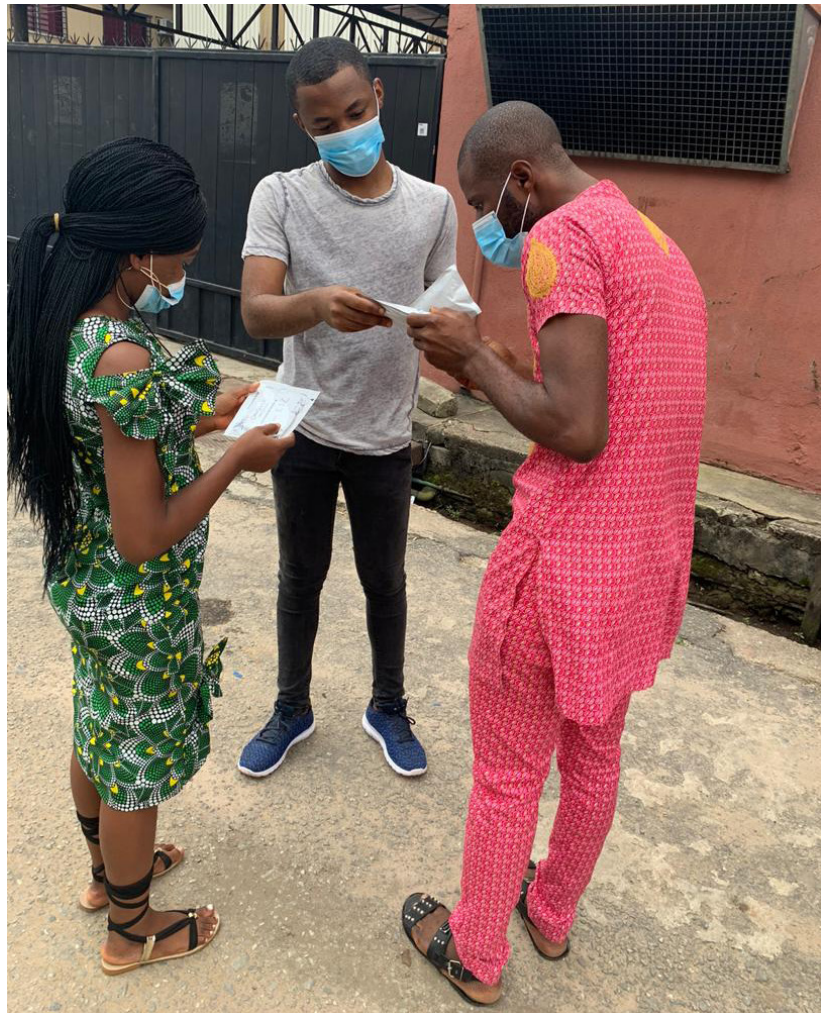
In Tanzania, HJFMRI had an exhibition booth at the agricultural trade fair celebrating the "Nane Nane" public holiday which recognizes the contributions of farmers. The program's presence at the fair highlighted HIV program interventions, the DREAMS initiative (Determined, Resilient, Empowered, Aids-Free, Mentored, Safe) for adolescent girls and young women, and offered COVID vaccinations on site through their close collaboration with Tanzania Regional Governments. In just six days, a total of 1,717 adults were vaccinated during the exhibition. The Johnson & Johnson COVID vaccinations were funded from the American Rescue Plan Act through PEPFAR.

Apart from showcasing the impact and milestones of the HIV services, HJFMRI also provided Voluntary Medical Male Circumcision (VMMC) at the fair using a mobile clinic van. A total of 175 people accessed the VMMC services.

In Nigeria, HJFMRI supports the Centre for Population Health Initiatives (CPHI), which is a drop-in community health center that offers a wide range of specialized, free health services to key populations. This PEPFAR-funded One-Stop Shop is a community-led resource where vulnerable

populations and people living with HIV can access HIV screening, testing and treatment; TB screening and treatment; cervical cancer screening; prevention of mother-to-child transition; partner counseling and more in one safe, convenient location. In addition to HIV prevention and treatment services, this One-Stop Shop is a hub for trusted information and access to COVID vaccines.

Convenience is at the heart of the One-Stop Shop model. Clients who drop in for HIV counseling or preventive services, or just to spend time in the CPHI center, may use the opportunity to discuss or receive the COVID vaccination. And, like all CPHI One-Stop Shop services, the COVID vaccines are free. The One-Stop Shop is supported by PEPFAR through HJFMRI Ltd/Gte and MHRP at the Walter Reed Army Institute of Research.



# Infectious Disease

## Two New HIV Vaccine Studies Begin Testing Novel Antigens, Adjuvant, and Vaccination Strategies

Research and development to advance a safe, globally effective HIV vaccine is the cornerstone of the mission of the U.S. Military HIV Research Program (MHRP) at the Walter Reed Army Institute of Research (WRAIR). In 2021, the HIV field saw the stoppage of a large-scale vaccine trial, and the COVID-19 pandemic continued to challenge global research efforts. In 2022, MHRP scientists adapted and persevered to initiate preclinical and clinical studies of new vaccine antigens, adjuvants, and fractional dosing.

In the spring, MHRP and collaborators began a Phase 1 trial in Thailand to evaluate two HIV vaccine candidates, with and without the Army's novel ALFQ adjuvant, to gain insight into late boosting strategies and the effects of fractional dosing. This study builds on an earlier MHRP trial, RV306, which administered an HIV vaccine regimen to participants and included a late boost at either month 12, 15, or 18. Results showed that longer intervals between the primary vaccination series and late boost improved immune responses.

This new trial, RV546, is a randomized double-blind study that is enrolling a total of 120 participants from the earlier RV306 study. The trial will test two different HIV protein boosts: the A244 protein vaccine provided by Duke University, and IHV01, an HIV-1 subtype B protein vaccine developed by the University of Maryland Institute of Human Virology.

Manufacturing protein vaccines can be complex and costly, which can limit supply. The fractional dosing component of RV546 will provide evidence for whether valuable vaccine can effectively be administered in smaller amounts to maximize supply and availability to a larger number of people.

Adjuvants are vaccine components that help activate the immune system and improve immune responses. The ALF family of adjuvants was developed by MHRP scientists at WRAIR, and preclinical studies have shown it to be a potent adjuvant. A leading formulation, ALFQ, is being used to augment immune response with several vaccines in testing, including those for COVID-19 and malaria. RV546 is the first use of ALFQ with a candidate HIV vaccine.

MHRP reached another milestone in 2022 when it began its first study of an mRNA HIV vaccine in animals. Novel immunogens termed "structural mosaics" used in this study were co-designed at Duke University and the Los Alamos National Laboratory to induce antibodies targeting the V1V2 region of the HIV envelope. These structural mosaics will be expressed through vaccination with the mRNA, with or without a protein vaccine boost. Early findings from each of MHRP's HIV vaccine studies are expected in 2023.





# Infectious Disease

## Patients Receive HJF-Licensed Antibody Therapy for Exposure to Deadly Hendra Virus

Two people in Queensland, Australia, who were in close contact with a horse infected with the deadly Hendra virus have been treated with an HJF-licensed antibody therapy. The antibody therapy, which is available for compassionate use, is based on the work of Christopher Broder, Ph.D., Professor and Chair, Department of Microbiology and Immunology, at the Uniformed Services University of the Health Sciences (USU), and his colleagues.

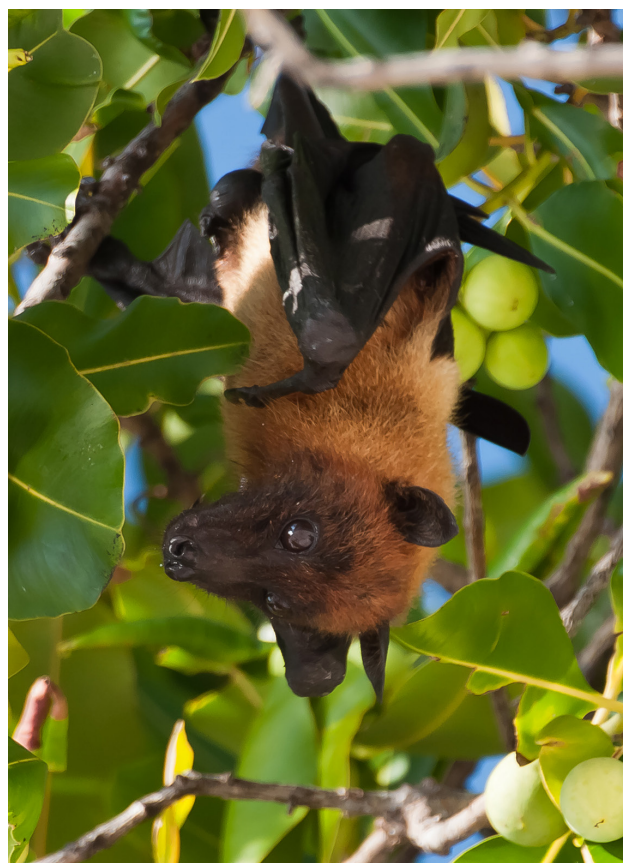
Broder and his colleagues developed the m102.4 human monoclonal antibody, which is the first and only known treatment against the highly pathogenic Hendra virus that mainly infects large fruit bats (flying foxes) and can be passed on to horses and humans. The m102.4 human monoclonal antibody was previously provided by HJF and USU for compassionate use for others in Australia in 2010. The cell line that produces the m102.4 human monoclonal antibody was later gifted to the Australian government for the purpose of producing it when necessary for compassionate use in the future.

Since 2010, a total 16 individuals have received prophylactic high-dose m102.4 on compassionate grounds following high exposure either to Hendra virus (15 in Australia) or Nipah virus (one in the United States). In 2018 and again in 2021, during successive Nipah virus outbreaks in India, doses of the m102.4 produced in Australia were provided to the Indian government. Hendra and Nipah viruses are closely related members of the paramyxovirus family.

“HJF was key in the deployment and licensing of the m102.4 human monoclonal antibody,” said La Shaun Berrien, Ph.D., HJF Vice President of Research

Administration and Innovation Management. “Years ago, HJF quickly moved the technology for the antibody treatment forward and now we’re able to see that work be of use again during this emergency.”

The antibody treatment is licensed to Mapp Biopharmaceutical, Inc.



### Employee Spotlight:

**Lily Kamali, Meetings Coordinator**

“Lily Kamali is committed to excellence and is an important member of the Meetings Team.”

# Infectious Disease

## WRAIR Supports Monkeypox Training in Nigeria



The Walter Reed Army Institute of Research (WRAIR) Emerging Infectious Diseases Branch, HJFMRI, U.S. Army Medical Research Directorate-Africa/Nigeria and collaborators in Nigeria completed monkeypox (mpox) public outreach and sample collection training between March and April, 2022, funded by a grant from the U.S. Defense Threat Reduction Agency (DTRA).

The program initially provided comprehensive mpox outbreak detection, case management and public outreach training for 120 Nigerian human and animal healthcare workers (HCWs) in early 2022. Additional trainings were subsequently provided for 67 human and animal HCWs, which included 15 previously trained health personnel who were mentored to lead these trainings. The trainees were drawn from across the six geopolitical zones of Nigeria, and the training sessions were held in Lagos and Abuja.

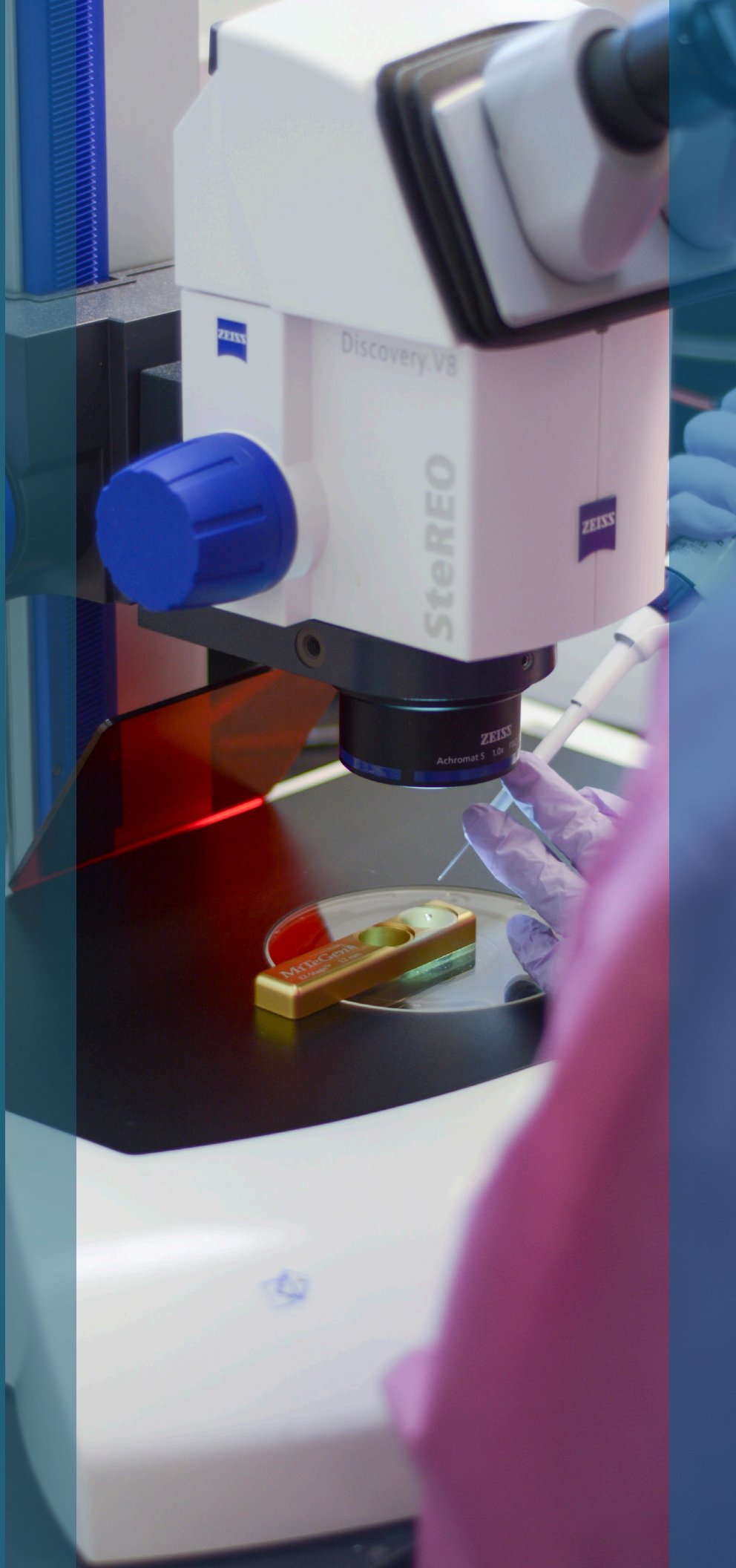
The training was provided in partnership with the DTRA Biological Threat Reduction Program, Leidos, Ministry of Defence Health Implementation Programme (MODHIP), Nigeria Centre for Disease

Control (NCDC), and the National Veterinary Research Institute (NVRI). The training focused on enhancing the ability of trainees to recognize symptoms and signs of mpox, building their capacity to perform safe sample collection/management for mpox diagnosis, and improving their knowledge and proficiency in infection prevention and control. The training also provided information on improving animal surveillance, sample and case management, and enhancing risk communication in public emergencies. Finally, the trainees developed the capabilities for the transfer of acquired competencies to their regional counterparts.

Mpox is a zoonotic infection caused by the mpox virus and endemic in the rainforest regions of Central and West Africa. Between 1970 and 2017, several mpox outbreaks and re-emergence were reported in those regions. Imported cases of mpox in Europe and the United States and the evolving epidemiology of the ongoing global outbreak have heightened the public health concern.



# Financials



For a complete copy of the latest  
financial statement, contact:

Chief Financial Officer

Henry M. Jackson Foundation for the  
Advancement of Military Medicine  
6720A Rockledge Drive, Suite 100  
Bethesda, Maryland, 20817

The financial information  
expressed here represents  
preliminary unaudited statements  
for fiscal year 2022.

# Financials

## Consolidated Statement of Activities

Year ended Sept. 30, 2022

### Revenues

Contributions	\$ 945,221
Grants and contracts	548,840,312
Investment income	(7,392,117)
Licensing fees and other	3,780,100
Net assets released from restrictions and transfers	-
<b>Total revenues</b>	<b>546,173,516</b>

### Expenses

Program services	
Research grants and contracts	492,857,462
Other program activities	51,441,676
Endowment and similar programs	1,208,697
Education projects	2,457,154
<b>Total program services</b>	<b>547,964,989</b>
Total support services	7,729,337
<b>Total expenses</b>	<b>555,694,326</b>
<b>Change in Net Assets</b>	<b>(9,520,810)</b>
<b>Net assets, beginning of year</b>	<b>159,361,488</b>
<b>Net assets, end of year</b>	<b>\$ 149,840,678</b>

## Consolidated Statement of Financial Position

As of Sept. 30, 2022

### Assets

Cash and cash equivalents	\$ 37,525,482
Grants and contracts receivable, net	125,140,409
Prepaid expenses and other current assets	9,366,878
Investments	70,534,644
Property and equipment, net	9,274,097
Goodwill & intangible assets	4,693,932
Other assets	6,656,225
<b>Total Assets</b>	<b>\$ 263,191,667</b>

### Liabilities

Accounts payable and accrued expenses	49,480,764
Accrued leave and benefits	25,040,124
Deferred revenue	15,526,887
Deferred rent	14,725,701
Other payables	8,577,513
<b>Total Liabilities</b>	<b>113,350,989</b>

### Net assets

Without donor restriction	99,111,317
With donor restriction	50,729,361
<b>Total net assets</b>	<b>149,840,678</b>
<b>Total liabilities &amp; net assets</b>	<b>\$ 263,191,667</b>



# Financials

## Funding Sources (Over \$50,000)

ABSS SOLUTIONS	NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES
AIDS CLINICAL TRIALS GROUP (ACTG) AT UCLA	NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT
ALBERT EINSTEIN COLLEGE OF MEDICINE	NATIONAL INSTITUTE OF DIABETES DIGESTIVE AND KIDNEY
ALCAMENA STEM CELL THERAPEUTICS	NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES
AMERICAN FOUNDATION FOR SUICIDE PREVENTION	NATIONAL INSTITUTE OF HEALTH
BANNER HEALTH	NATIONAL INSTITUTE OF NEURO DISORDERS AND STROKE
BETH ISRAEL DEACONESS MEDICAL CENTER	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM
BOEHRINGER INGELHEIM	NELLONE THERAPEUTICS
BOSTON UNIVERSITY	NEURAL ANALYTICS
CAMRIS INTERNATIONAL	PATH
CDC FOUNDATION	PFIZER INC
CENTERS FOR DISEASE CONTROL AND PREVENTION	PROSTATE CANCER FOUNDATION
CHILDRENS HOSPITAL MEDICAL CENTER	PRYTIME MEDICAL DEVICES
DAXOR CORPORATION	SYNGENTA LIMITED
DC HOMELAND SECURITY AND EMERGENCY MANAGEMENT AGENCY	TECHNOLOGY HOLDING LLC
DEFENSE HEALTH AGENCY	THE ADMINISTRATORS OF THE TULANE EDUCATIONAL FUND
DEPARTMENT OF VETERANS AFFAIRS	THE GENEVA FOUNDATION
DUKE UNIVERSITY	THE OHIO STATE UNIVERSITY
EMORY UNIVERSITY	THE RESEARCH FOUNDATION FOR THE STATE UNIVERSITY OF NEW YORK
FLORIDA INTERNATIONAL UNIVERSITY BOARD OF TRUSTEES	THE UNIVERSITY OF TENNESSEE HEALTH SCIENCE CENTER
FRED HUTCHINSON CANCER RESEARCH CENTER	THE UNIVERSITY OF TEXAS AT SAN ANTONIO
GEORGE MASON UNIVERSITY	UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCE
GLACIER SUPPORT SERVICES LLC	UNIVERSITY OF MARYLAND BALTIMORE
GLADSTONE INSTITUTES	UNIVERSITY OF MIAMI
GLAXOSMITHKLINE BIOLOGICALS SA	UNIVERSITY OF NAIROBI KAVI INSTITUTE OF CLINICAL RESEARCH
HENRY M JACKSON FOUNDATION OF THE ADVANCEMENT OF MILITARY MEDICINE	UNIVERSITY OF NOTRE DAME
HUMANETICS	UNIVERSITY OF PITTSBURGH
IMPACT RESEARCH AND DEVELOPMENT ORGANIZATION	UNIVERSITY OF SOUTHERN CALIFORNIA
INOVIO PHARMACEUTICALS	UNIVERSITY OF TEXAS MEDICAL BRANCH
JEAN PERKINS FOUNDATION	UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL CENTER
JOAN AND SANFORD I WEILL MEDICAL COLLEGE OF CORNELL	U.S. AIR FORCE RESEARCH LABORATORY
JOINT CLINICAL RESEARCH CENTRE	U.S. ARMY CONTRACTING COMMAND ABERDEEN PROVING GROUND
KINTAMPO HEALTH RESEARCH CENTRE	U.S. ARMY MEDICAL RESEARCH ACQUISITION ACTIVITY
LIMMATECH BIOLOGICS AG	VERILY LIFE SCIENCES
LUMEN BIOSCIENCES	WASHINGTON UNIVERSITY
MEDIGEN	YALE UNIVERSITY
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	ZYMERON
NATIONAL ENDOWMENT FOR THE ARTS	
NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES	
NATIONAL CANCER INSTITUTE	



**LinkedIn:** The Henry M. Jackson Foundation  
for the Advancement of Military Medicine



**Facebook:** @HJFMilMed



**Twitter:** @HJFMilMed



The Henry M. Jackson Foundation for the  
Advancement of Military Medicine, Inc.

6720A Rockledge Drive, Suite 100, Bethesda, MD 20817  
Phone: 240-694-2000 | Fax: 240-694-3100  
[www.hjf.org](http://www.hjf.org)