CERSE Facilities and Resources Boilerplate - Updated 8/7/2025 Facilities & Other Resources

Virginia Commonwealth University (VCU)

Virginia Commonwealth University (VCU) is a public research university with 15 major schools, including the School of Medicine, over 100 graduate programs, and over 28,000 enrolled students. VCU had more than \$500 million in FY2024 sponsored research funding and holds a Carnegie Foundation "Very High Research" activity designation. VCU is a national research and service leader in rehabilitation medicine, disability science, and vocational rehabilitation; it provides extensive resources to support the Department of PM&R. VCU collaborates closely with the Central Virginia Veterans Affairs Health Care System (CVHCS) and the Richmond VA Medical Center (R-VAMC).

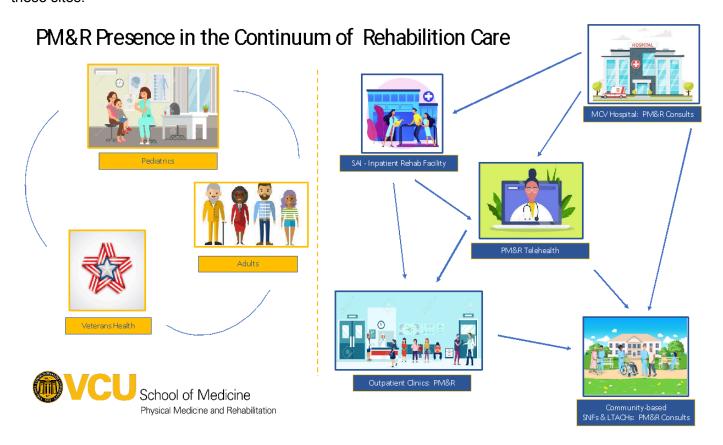
VCU Health provides healthcare at its teaching medical center, two community-based hospitals and multiple ambulatory care centers. The Hospital has 755 licensed beds, over 100 ICU beds, and 20% of the Richmond inpatient market. VCU Health is a Level 1 trauma center and has a critical care hospital. VCU Medical Center records 50,000 inpatient admissions and more than 650,000 outpatient visits each year. VCU Health is Virginia's largest safety net provider. Minority-identifying individuals compose a substantial portion of the patient population; over half of all patients seen in both outpatient and inpatient settings identify as Black or African American. Over 100,000 patients are treated annually in the hospital's Emergency Department, the region's only American College of Surgeons (ACS) Nationally Certified Level I Trauma Center and one of the busiest emergency rooms in the Mid-Atlantic. VCU Health includes over 200 specialty areas and has received international recognition for neurorehabilitation and brain and spinal cord trauma research.

The VCU Department of Physical Medicine and Rehabilitation (PM&R) is one of the most well-established PM&R departments in the country and has received international recognition for neurorehabilitation, including brain and spinal cord trauma research. VCU PM&R was organized in 1947, became a formal department in 1952, and established the first rehabilitation unit in Virginia. In acknowledgment of the Department's extensive clinical research history and operations, the School of Medicine and the VCU Board of Visitors established a Division of Rehabilitation Research in 1991 to monitor and ensure adherence to federal and state regulations, coordinate resources to increase efficiency and cost effectiveness, and provide technical assistance. Chaired by David Cifu, MD since 1998, VCU PM&R founded the Center for Rehabilitation Sciences and Engineering (CERSE) in 2006 to facilitate interdisciplinary rehabilitation and pain research with faculty across VCU and the R-VAMC. VCU PM&R, in collaboration with R-VAMC and Sheltering Arms Institute (SAI), is home to three NIDILRR-designated Model Systems of Care, including 2 for TBI and 1 for SCI. The 70+ VCU PM&R faculty, including physicians and psychologists, provide clinical, research and teaching across VCU Health, SAI, Children's Hospital of Richmond and R-VAMC. VCU's comprehensive inpatient and outpatient rehabilitation services are provided to patients with a variety of neurologic, musculoskeletal, and other conditions including stroke, brain injury, spinal cord injury, amputation, burns, and cancer. The three-year PM&R residency-training program, fully accredited by the Accreditation Council for Graduate Medical Education (ACGME), is one of the oldest and widely considered a top 10 U.S. program. The Department also has 7 post-graduate fellowship training programs including in TBI/Polytrauma, Amputation, SCI, Pain Management, Integrative Medicine, Sports Medicine and Rehabilitation Research.

VCU Center for Rehabilitation Science and Engineering (CERSE), founded in 2006, is led by Executive Director Ronald Seel, PhD. CERSE fosters transdisciplinary, rehabilitation research and training to improve the health, function, and life quality of persons with disability and generates innovative knowledge through independent, interconnected research programs across a wide range of disability and rehabilitation topics. CERSE faculty and staff collaborate with VA researchers and provide full research infrastructure on topics such as regenerative medicine, applied robotics, virtual reality, and artificial intelligence. CERSE has developed and maintained affiliations with 142 researchers across three institutions with an emphasis on interdisciplinary grant application submissions including R-VAMC and SAI. CERSE leads or consults on 66 grants/contracts with Total Awards of \$111M and CY2024 Awards of \$19M. In 2021, the VCU Office of Vice-President of Research and Innovation formally designated CERSE as a VCU-wide center in recognition of its achievements in facilitating cross-campus, interdisciplinary rehabilitation research collaborations and funded grants. CERSE, in collaboration with the R-VAMC provides support with PI David Cifu, MD for the \$116.7 million Long-term Impact of Military-relevant Brain Injury Consortium-Chronic Effects of Neurotrauma Consortium (LIMBIC-CENC)

nationwide, combat exposures research program. CERSE currently has 80 full- or part-time personnel including 40 faculty, 4 post-doctoral fellows, and 40 full-time research support staff including an Associate Director of Research Development, grants management and accounting specialists; research managers, coordinators, and assistants; data center, programmers, and call center; information technology; and knowledge translation and dissemination specialists. CERSE offices and computer resources are fully provided to conduct research, recruit, and collect data. All CERSE offices have laptops with internet connection, remote access, email accounts, online access to University Library Services, Microsoft Office software, and research software for data management and analysis, and reference management (REDCap, Qualtrics, SPSS, and Endnotes). VCU servers are firewall protected, and all laptops run Sophos anti-virus software with automatic updates. CERSE is also equipped with printers, scanners, digital cameras, photocopiers, office supplies, fax machines, telephones, TTY, and access to other VCU materials.

The VCU PM&R Continuum of Care is the core clinical and research partnership between VCU, SAI, and R-VAMC, and is founded on decades of clinical and research collaboration between these partners. This collaboration also includes a Sheltering Arms-VCU Health initiative to co-fund, build and staff SAI, a 114-bed, state-of-the-science freestanding inpatient rehabilitation hospital, which opened in June 2020. There is significant leadership interaction between these three organizations that foster close collaborations among them. The SAI Board of Directors, including Dr. Cifu, facilitates coordination and planning across the rehabilitation care continuum. PM&R has an extensive acute medical, rehabilitation and community-based continuum of care to meet the needs of individuals with TBI, SCI, amputation, stroke, cancer, pain, and other neurologic and musculoskeletal conditions. The VCU PM&R continuum includes five Level 1 trauma centers that provide emergency medical and acute care services to Virginia's citizens. SAI, a regional rehabilitation clinical and research center, provides a broad spectrum of interdisciplinary rehabilitation services and acute care to the community. In addition to its inpatient rehabilitation hospital, SAI offers comprehensive outpatient rehabilitation therapy services at 8 community locations and outpatient rehabilitation professional (physician, psychology) clinics at 3 locations. Specialty services and clinics for individuals with TBI, SCI, amputation and pain care needs exist. All of the PM&R physician and psychology services at SAI are provided by VCU PM&R faculty. VCU PM&R, R-VAMC and SAI jointly support PM&R residency training in TBI, SCI, Amputation and Pain Management and ACGME-accredited fellowship training programs in TBI, SCI, and Pain Medicine at these sites.



Sheltering Arms Institute (SAI), a collaboration with VCU Health. The SAI is a freestanding rehabilitation clinical care and research hospital located at 2,000 Wilkes Ridge Dr, Richmond VA, 23233. The new, state-of-the-science, 212,063 total sq. ft., inpatient rehabilitation facility has 114 beds, a 9,251 sq. ft. main therapy gym, three satellite gyms and a neuroimaging facility. SAI provides inpatient and outpatient interdisciplinary rehabilitation services for patients with brain injury and has dedicated space for research and meetings.

VCU PM&R Trauma Centers VCU PM&R routinely coordinates with five level I trauma centers: VCU Health, Sentara Norfolk General, University of Virginia, INOVA Fairfax, and the CVHCS; all have longstanding TBI and SCI referral relationships with VCU. VCU PM&R offers in-person and virtual acute care rehabilitation consultation across these 5 locations and supports the transition of patients to inpatient (SAI), outpatient or home health-based services, as needed.

VCU Health Rehabilitation Outpatient Services provide a wide range of specialties including Occupational, Speech and Physical Therapy, Physiatry, Neurology, Internal Medicine, Psychiatry, and Psychology at 8 locations across the region. Two clinics (Richmond city center and the west end suburbs) provide outpatient services for over 50 new patients with SCI, over 200 new patients with TBI, and over 50 new patients with Amputation each year. An interdisciplinary team comprised of physician, OT, PT, and SLP coordinate service provision and home programs. Therapies focus on balance and transfers training, strengthening and aerobic conditioning, wheelchair skills, gait training, and ADL/IADL functioning. Specialty equipment includes Functional Electric Stimulation Devices (Bioness and RT300) and Lokomat/Body Weight Support Treadmill. VCU provides education and training on self-care management including bowel and bladder programs; final fitting and adjustment of DME is provided.

VCU Health Division of Community Health preserves VCU's safety net mission by addressing social determinants of health that undermine outcomes through the implementation of population health strategies that better outcomes, lower costs, and improve the clinician/patient experience. Kim Lewis, MEd, MCHE, has 10+ years' experience delivering and supervising community health service programs and supervises 12 community health workers. She has previously led her team's participation in health service studies that required data collection.

The VCU Kenneth and Dianne Wright Regional Center for Clinical and Translational Research (Wright Regional Center) provides collaborative infrastructure and educational opportunities for trainees and investigators. This includes grant funding opportunities for VA-VCU trans-institution pilot research proposals as well as seminars in biostatistics, career development and grantsmanship. The Wright Center also offers consultative biostatistical/epidemiological expertise. The Wright Center was established in 2007 to integrate growing VCU multi-disciplinary medical research, providing resources and services that no other program has the scale or university support to provide. The Wright Center has recently been re-funded under the NIH CTSA mechanism from 2023-2030. The Wright Center is led by the Associate Vice President for Clinical Research and Wright Center Program Director, Dr. F.G. Moeller under the direction of the VCU VP for Research and Innovation, Dr. Srirama Rao.

VCU Department of Biostatistics, housed in the School of Public Health, includes 22 full-time faculty members who have expertise in Web portal, data management, bioinformatics, adaptive design, causal network, analysis of high-throughput biological data, and longitudinal hierarchical models. Strong ties exist between the Department and the Schools of Population Health, Medicine, Dentistry, Pharmacy, Nursing, and Health Professions, and several faculty members hold joint appointments. The Department has 11,329 sq. ft. of space with 34 faculty and staff offices, 2 classrooms, 5 conference rooms, 5 storage rooms, and 2 large filing rooms. The faculty of the Department of Biostatistics collaborate with clinical investigators on the Medical College of Virginia Campus in a wide variety of research projects through the Biostatistical Consulting Laboratory and the Research Incubator of the Center for Clinical and Translational Research. Department faculty are nationally recognized for their biostatistical work in the areas of clinical trials, pharmacology/toxicology, epidemiology, and health services research.

VCU CERSE Data Hub is led by CERSE/PM&R Professor Amol Karmarkar, PhD, a national expert in health services and health policy research, who also serves as SAI Research Director. The Data Hub provides health services researchers across VCU with access to Medicare, Virginia All Claims, and other claims data; and

optimized functionality of the TriNetX system to study VCU Health patient populations for service use and outcomes, including finding patients for clinical research studies. CERSE purchased CMS datasets (2016-2019) including Home Health, Medicare Master Beneficiary Summary File (A/B/D, Chronic Conditions, Cost and Utilization, and Other Chronic/Disabling Conditions Segments); Assessments (MDS, OASIS, IRF-PAI); and MedPAR; as well as other large health datasets. The Data Hub can provide health services and other interested clinical researchers across VCU with: (a) shared access to existing claims data at VCU; (b) newly purchased, current Medicare and other claims data; (c) optimized functionality of the TriNetX system to study VCU Health patient populations, service utilization, and outcomes, and (d) training and expert consultation on using and analyzing big data. Long-term, CERSE will facilitate leveraging VCU resources across all departments to purchase and keep up to date Medicare and other claims datasets. These large datasets can then be evaluated with generated evidence translated and used for improved health policy and patient care, pilot data and findings for research grant applications and specifically to develop NIH-funded pragmatic clinical trials.

VCU Department of Biomedical Engineering (BME) and the Institute for Engineering and Medicine in the College of Engineering (COE) has 23 faculty. VCU BME has set up labs dedicated to developing and testing novel therapeutics and technologies to improve the function, health, and life quality of people with disabilities. VCU BME has a wealth of equipment, and administrative and research support resources to support grant-funded projects.

VCU Libraries (VCUL) has two main physical locations: the James Branch Cabell Library on the Monroe Park Campus, the Health Sciences Library on the MCV Campus, as well as auxiliary library operations including the VCUarts Qatar Library on VCU's Doha, Qatar, campus; and the VCU Medical Center Health and Wellness Library, operated by the VCU Libraries in partnership with the VCU Health System. The unit employs over a hundred professionals with annual expenditures exceeding \$24 million. Over 1.7 million electronic titles and 1.3 million physical titles are managed and readily available through VCU Libraries, with faculty committed to increasing and optimizing our collection for research in the health sciences and beyond. We provide access to over 500 databases, including several scientific databases such as PubMed (a free resource from the National Libraries of Medicine), Web of Science (a Clarivate product), and Embase (through the OVID platform). VCUL participates in the Virtual Library of Virginia (VIVA), a statewide networking consortium for shared access to electronic and print resources. Islandora, Digital Commons, and Omeka supplement the foundation of the VCU Libraries system architecture to enhance access to its collections and services. To further broaden access VCUL manages a robust and efficient interlibrary loan program, with turnaround times for articles averaging 2-14 business days.

Central Virginia Veterans Affairs Health Care System

Central Virginia Veterans Affairs Health Care System (CVHCS), is a part of the Veterans Integrated Service Network 6 (VISN 6) and has >60,000 unique Veterans it provides care for annually across a catchment area of more than 200,000 Veterans. CVHCS' Veterans come from 52 cities and counties, covering 22,515 miles of central and southern Virginia and parts of northern North Carolina, and includes a major medical center complex in Richmond (Richmond Veterans Affairs Medical Center – R-VAMC) linked with five Community Based Outpatient Centers (CBOC) in Charlottesville, Emporia, Fredericksburg and Henrico. A new, full-service 200,000+ square foot replacement outpatient hospital/CBOC will open in Fredericksburg in 2023 and a new CBOC will open in Mechanicsville in 2024. A large and well-developed Virtual/Telehealth network is in place across all areas of care, centered at the R-VAMC. CVHCS is a national leader in Veteran and Service Member polytrauma rehabilitation care and research and is a primary referral site for DoD installations for Service Members with polytrauma combat injuries.

Richmond Veterans Affairs Medical Center (R-VAMC), the clinical and academic tertiary medical center for CVHCS, provides diagnostic and therapeutic services in various rehabilitation medicine areas including pain management, integrative pain care, polytrauma, traumatic brain injury, spinal cord injury, amputation care, prosthetics and orthotics, electromyography, spasticity, and assistive technology. R-VAMC's 400-bed, 1a complex, tertiary care facility is a major referral center for specialty treatment including open-heart surgery, heart transplant, vascular disease, oncology, epilepsy, headaches, addiction medicine, women's health, post-traumatic stress disorder, substance use disorders, traumatic brain injury and spinal cord injury.

R-VAMC Interventional Pain Clinic (IPC) is an interdisciplinary rehabilitation, anesthesiology, neurology and mental health supported program, led by the PM&R Service, that provides care to more than 4,000 unique Veterans with chronic pain annually in the outpatient setting, with >60% having low back pain as a presenting complaint. The IPC strives to maximize the quality of life of persons with activity limitations through the use of interventions including acupuncture, facet nerve blocks, radiofrequency ablation, spinal cord stimulation and other interventions. The IPC works closely with the Veterans Integrative Pain program (VIP; see below) to offer a range of care approaches. The IPC programs emphasize the enhancement of quality of life by improving functional independence, increasing participation in social activities, preventing further injury, and by education in health maintenance. The IPC physicians are actively engaged with the polytrauma services (SCI, Amputation, TBI) in collaborative clinical care and research activities, including interventional care for phantom limb pain and zone of injury/neuropathic pain in SCI. All rehabilitative physician care delivered at the R-VAMC is directly provided by members of the VCU Department of PM&R and all of the anesthesiology physicians have joint appointments in VCU Anesthesia and PM&R. R-VAMC and VCU PM&R jointly support PM&R residency training in interventional pain care and an ACGME-accredited fellowship training program in Pain Medicine.

R-VAMC Veterans Integrative Pain (VIP) Program provides a whole health approach to care to Veterans with polytrauma and chronic pain, using an integrated, interdisciplinary team of rehabilitation clinicians. Co-led by PM&R physicians and pain psychologists, VIP provides care to >1,000 unique Veterans with polytrauma-related pain annually. A Veteran-centric approach to pain management with a range of complementary and integrative therapies are used, the VIP emphasizes active engagement pain care to enhance acceptance of treatments and durability of outcomes. All rehabilitative physician care delivered at the R-VAMC is directly provided by members of the VCU Department of PM&R. R-VAMC and VCU PM&R jointly support PM&R residency training in integrative medicine pain care and a fellowship training program in Integrative Medicine.

R-VAMC Spinal Cord Injury and Disorders (SCI&D) Center has a long-standing, nationally recognized clinical care and academic training program in Spinal Cord Medicine that is accredited by CARF and the Joint Commission. It is the largest Health Administration Veterans SCI&D Center in the U.S. with 80 acute care beds, including 16 ventilator beds, and 20 lodger beds. The SCI service manages specialty care for many active-duty Service Members and Veterans with SCI sustained during Operations Enduring Freedom and Iragi Freedom (OEF/OIF) and other eras of service. Six of the eight SCI&D Center physicians have subspecialty board certification in SCI Medicine. The SCI&D Center accepts referrals from 13 VHA centers in medical the geographic

NIDILRR Spinal Cord Injury Model Systems

Non-invasive electrical spinal cord cord attraviation (NESS) for spinal cord (NESS) for spinal

1 of only 14 Centers in the U.S

Ashraf Gorgey, PhD, PT Tim Lavis, MD Zina Trost, PhD



catchments area and serves over 1,700 Veterans with SCI&D across 4 VISNs and 5 states. Over 50 patients with new tetraplegia are admitted and treated annually (250 over the last 5 years). The SCI&D Center works closely with the R-VAMC Urodynamic Center, which is equipped with state-of-art equipment needed to measure bladder health in persons with SCI, including a multichannel urodynamics system (Laborie), Sphincter EMG system, and C-fluoroscopy. The SCI&D Service actively supports a federally funded research program in spinal cord modulation/stimulation, exoskeletal gait, and pain management. The SCI&D Service is part of the NIDILRR SCI Model Systems research program in collaboration with VCU PM&R. All rehabilitative physician care delivered at the R-VAMC is directly provided by faculty members of the VCU Department of PM&R. R-VAMC and VCU PM&R jointly support PM&R residency training in SCI Medicine and an ACGME-accredited fellowship training program in SCI Medicine.

R-VAMC Regional Amputation Center (RAC) is one of seven regional centers in VHA's Amputation System of Care. The facility catchment area (VISN 6) contains approximately 3,500 amputees (97% male), and the RAC provides clinical care locally to 900 major upper or lower limb amputees annually. Trans-tibial (below-knee) is the most common amputation level overall with transfemoral (above-knee) being the second most common. Approximately 10-15% of this population has upper limb amputation. Between >40% of these Veterans experience phantom limb pain (PLP) during their rehabilitation. The R-VAMC RAC provides the highest level of specialized expertise in clinical care and technology and is capable of delivering comprehensive rehabilitation

VA/DoD Osseous Integration Prosthetics

- · Collaboration with the Salt Lake City VAMC
- Only osseous integration program in VAMC
- Dedicated Gait Laboratory







Joseph Webster, MD Benjamin Darter, PT, PhD Douglas Murphy, MD

care to the most complex amputation cases, including those with multiple limb amputations. The RAC provides clinical expertise in state-of-the-art medicine, rehabilitation techniques, and prosthetic technology and design. It provides comprehensive, holistic rehabilitation care through a dedicated interdisciplinary team that includes physical therapists, occupational therapists, prosthetists, orthotists, social workers, care coordinators, nurses, psychologists and recreation therapists. The RAC serves as a resource for other VA medical facilities through the use and dissemination of tele-rehabilitation for consultation, models of care, best practices, educational programs, and the evaluation of new technology. A comprehensive Orthotics and Prosthetics lab, gait analysis laboratory, and one of five regional Assistive Technology programs are located at the R-VAMC. An integrated research program exists between the R-VAMC RAC, R-VAMC IPC, VCU PM&R, and VCU School of Physical Therapy to study phantom limb pain, osseous-integrated prostheses, and energy use during prosthetic ambulation. All rehabilitative physician care delivered at the R-VAMC is directly provided by members of the VCU Department of PM&R. R-VAMC and VCU PM&R jointly support PM&R residency training in amputation care and a fellowship training program in Amputation and Pain Management.

R-VAMC Traumatic Brain Injury and Polytrauma Care. R-VAMC is one of five lead VA centers specializing in TBI rehabilitation services for active-duty Service Members and Veterans. Since January 2005, the R-VAMC has been a regional and national leader in the rehabilitation of combat-induced injuries and a primary referral site from DoD installations. Multiple programs have been designed with dedicated staffing and space to support the recovery of complex, combat-induced brain injuries and psychological sequelae. A cornerstone in the VA Polytrauma System of Care (PSC), it features a Level 1 Polytrauma Rehabilitation Center (PRC; one of 5 nationwide dedicated to inpatient care of TBI/Polytrauma), a Level 1 Polytrauma Transitional Rehabilitation Program (PTRP; one of 4 nationwide dedicated to residential rehabilitation TBI/Polytrauma care), a Level II Polytrauma Network Site (PNS; one of 23 nationwide dedicated to outpatient TBI/Polytrauma care) and an Assistive Technology Center of Excellence (AT-COE; one of 4 inpatient and outpatient centers dedicated to Polytrauma assistive technology needs). Each individual program in the R-VAMC's PSC offers a full complement of interdisciplinary team members. All the interdisciplinary faculty supporting PSC programs have joint appointments at VCU through

departments of Psychology, Psychiatry, PT, OT, and PM&R. Extensive research activities related to TBI and polytrauma are centered at R-VAMC, including two integrated **NIDILRR** TBI Model **Systems** programs (one for civilians centered at VCU and one for Veterans centered at R-VAMC) and the VA/DoD Long-term Impact of Military

Two NIDILRR Traumatic Brain Injury Model Systems

- · 1 of 14 Civilian Centers in the U.S.
- 1 of 5 Veteran Centers



Relevant Brain Injury Consortium (LIMBIC). All rehabilitative physician care delivered at the R-VAMC is directly provided by faculty members of the VCU Department of PM&R. R-VAMC and VCU PM&R jointly support PM&R residency training in Polytrauma/TBI Medicine and an ACGME-accredited fellowship training program in TBI Medicine.

Polytrauma Rehabilitation Center (PRC) is one of five designated Polytrauma Rehabilitation Centers (PRC) in the VHA. It is a 12-bed inpatient unit staffed by 47-full time rehabilitation professionals that provides rehabilitation tailored to individual patterns of impairment sustained due to trauma and management of associated conditions through consultation with other specialties as necessary. Seven separate therapy gyms are available for evaluation and treatment of our nation's Veterans and Active-Duty Service Members. The PRC system of care is accredited by the Commission on Accreditation of Rehabilitation Facilities (CARF) and the Joint Commission. The R-VAMC is the PRC for the Northeast Region and the VISN 6 Polytrauma Network Site. All rehabilitative physician care delivered at the R-VAMC PRC is directly provided by faculty members of the VCU Department of PM&R.

Polytrauma Transitional Rehabilitation Center (PTRP) is one of four sites within VA to have a community reentry program for those with TBI. The PTRP is a free-standing facility with 20 individual apartments supported by 19 full-time clinical staff, dedicated therapy space, an assistive technology laboratory and therapeutic equipment. This model is targeted towards the increasing numbers of Service Members returning with cognitive and behavioral deficits from mild TBI and combat stress syndromes. Transitional rehabilitation offers a gradated return to independent living through a structured rehabilitation program focused on restoring home, community, and vocational skills in a controlled, therapeutic setting. All rehabilitative physician care delivered at the R-VAMC PTRP is directly provided by faculty members of the VCU Department of PM&R.

Intensive Evaluation and Treatment Program (IETP)/Service Member Transitional Advanced Rehabilitation (STAR) at the R-VAMC PRC is designed specifically for Special Operation Forces (SOF) with a history of TBI and polytraumatic injuries. The STAR Program provides comprehensive, interdisciplinary rehabilitation services in a therapeutic, residential environment. STAR Program participants are typically active-duty SOF personnel with a history of multiple training or combat injuries related to blast exposure, airborne operations, weapons firing, combatants, or military vehicle operations. The program has a flexible census of eight participants and a typical length of stay between 60 and 90 days. In addition to comprehensive physical medicine and rehabilitation services, the STAR Program often incorporates specialty or consultative services for pain management, including headache treatments, integrative and whole health services, biofeedback, acupuncture and dry needling, and ketamine infusions. All rehabilitative physician care delivered at the R-VAMC IETP/STAR is directly provided by faculty members of the VCU Department of PM&R.

R-VAMC Headache Center of Excellence (HCoE) is part of the VHA-wide HCOE system established in 2018 across 17 VAMCs that treated more than 1.74 million unique Veterans in 2021. R-VAMC's headache center is located adjacent to both the PRC and IPC, and offers appointments by Face 2 Face, Clinical Video Telehealth (CVT), VA Video Connect (VVC) and e-consults. Initial evaluation includes a detailed intake to accurately diagnose, appropriately treat and effectively communicate a treatment plan that is tailored to the individual Veteran's needs. Capabilities in the headache center include administration of nerve blocks, botulinum toxin, acupuncture, and neuro modulation devices, along with medication options as indicated and strategies to improve contributing lifestyle issues. In addition, the headache center health psychologist offers cognitive behavioral therapy (CBT) for headache management, the social worker can help with case coordination and a chiropractor is available for those Veterans who have pain radiating from the neck that is contributing to their headaches. The R-VAMC HCoE is led by the Neurology Service and integrated with services from the PRC, PTRP, IETP/STAR, PNS, and IPC programs.

Other R-VAMC Neuroscience Programs: The R-VAMC houses the southeast Parkinson's disease Research Education and Clinical Center (PADRECC); one of six specialty centers in the country. The R-VAMC houses an Epilepsy Center of Excellence (ECoE), part of a nationwide VA network, that is located adjacent to the Polytrauma Rehabilitation Center.

R-VAMC Mental Health Clinical Research Infrastructure: The R-VAMC is a designated Mental Illness Research, Education and Clinical Center (MIRECC) within VISN 6, a congressionally established VA program

with an overarching goal of improving clinical assessment and treatment of post-deployment mental health issues through basic and clinical research. The VISN 6 MIRECC links clinicians and researchers across five VAMCs and allows for research collaboration and resources to be shared in support of this goal. The MIRECC has collected genetic, metabolic, neurocognitive, and neuroimaging data, as well as a structured clinical interview of all DSM-IV Axis I disorders, a TBI screen, and 29 psychosocial measures, on over 3,000 active-duty Service Members and OEF/OIF Veterans using a longitudinal design. The Psychology Division at R-VAMC includes more than 60 psychologists who provide assessment and treatment services. Psychological assessment and treatment services are often provided in the context of interdisciplinary teams in specialty clinics such as the PTSD Clinic, Outpatient Mental Health Clinic, Veterans Integrated Pain Clinic, Substance Abuse and Disorders Clinic, the full continuum of inpatient, residential, and outpatient care through the PSC, Primary Care, Home Based Primary Care, Geriatrics, Psychosocial Rehabilitation and Recovery Center (PRRC), and the SCI&D Center. Psychologists also provide consultation and liaison assessment services across the medical center including those for spinal cord stimulator placement, transplant (heart, liver, kidney, and lung), pre-surgical assessments for bariatric and other conditions, mental health evaluations, neuropsychological assessment for neurology, pain management classes, and cognitive behavior therapy for insomnia.

Richmond Institute for Veterans Research (RIVR) is a non-profit research organization that supports R-VAMC investigators who conduct inpatient and outpatient pre-clinical, phase I-IV trials, and outcomes research. RIVR offers comprehensive research support including IRB, grant submissions, and post-award support from Federal, State, Industry and Non-Profit sources. RIVR approves all grant budgets and materials. RIVR provides a computerized Patient Data Management System that tracks research subjects and outcomes, coordinates weekly IRB meetings, and supports research recruitment.

- Experienced physician investigators and nurse coordinators with in-house resource support
- Consultation in all medical and surgical specialties
- Laboratory, Radiology and Nuclear Medicine support
- A computerized Patient Data Management System that tracks research subjects and facilitates outcomes studies
- IRB meetings weekly provide great support to the research team in the process of recruitment, initial physical examination and medical screening to meet the inclusion criteria.

Copy machines, fax machines, and color and high volume black and white laser printers are available to all staff, in close proximity to their offices. All desktop computers at the R-VAMC are connected via Ethernet-TCP/IP connection, providing secure, rapid access to the internet, VCU and VA libraries, and e-mail. All key personnel have PC-compatible computers for data management and analysis, and manuscript preparation. The R-VAMC IT Department provides computer support.