In December 2014, President Obama announced that “our combat mission in Afghanistan is ending, and the longest war in American history is coming to a responsible conclusion.” Coupled with the withdrawal of U.S. troops from Iraq in 2011, the president’s statement means there are now fewer than

Phase 2 of Women Veterans Cohort Study Begins

The proportion of women in the military, their roles, and their exposure to combat changed dramatically during the wars in Iraq and Afghanistan. VA researchers are studying the impact of these changes on women’s health outcomes, their health care needs, and the utilization of the VA health care system.

Mobile App to Support Treatment for Concussed Veterans

To better meet the needs of Veterans and others who have suffered mild to moderate concussion associated with traumatic brain injury, VA’s National Center for PTSD has developed a mobile app called “Concussion Coach.” The app provides portable tools to recognize symptoms and to identify and make use of coping strategies. It can be downloaded here.

Any health information in this newsletter is strictly for informational purposes and is not intended as medical advice. It should not be used to diagnose or treat any condition.
New Initiatives

Phase 2 of Women Veterans Cohort Study Begins
Continued from page 1

From November 2007 through October 2012, researchers at the West Haven Campus of the VA Connecticut Health Care System conducted a study of administrative and clinical data from the electronic health records of more than 900,000 Veterans, and surveyed nearly 700 Veterans.

The researchers found that women Veterans of Iraq and Afghanistan have higher pharmacy and outpatient costs than male Veterans. The team’s work has provided a foundation for additional research related to pain and musculoskeletal conditions in women Veterans. Their findings on pregnancy and mental health in women Veterans helped to shape national policy requiring the coordination of maternity care, and influenced the development of a national initiative on reproductive mental health.

In July 2014, VA funded a new study of these Veterans, designed to longitudinally identify the predictors and psychiatric and psychosocial modifiers of painful musculoskeletal conditions, mental health conditions, and cardiovascular disease. The West Haven research team, headed by Dr. Sally Haskell, will also look at treatment patterns and barriers to care for those conditions. The researchers hope to determine patterns of disease onset and progression in women Veterans in each of these areas.

In addition to using data from the previously completed study, the team will conduct new surveys and focus groups at sites throughout the nation. The study is funded by VA’s Office of Health Services Research & Development through June 2018.

Mobile App to Support Treatment for Concussed Veterans
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Features of the app include education about concussion symptoms and treatment options; tools for screening and tracking symptoms; relaxation exercises and other tools to manage concussion-related problems; links for community-based resources and support; and space for a personal contact list, resources, and support.

“In developing the Concussion Coach, we applied the science and the clinical recommendations that have emerged from the recent efforts of researchers and practitioners across many agencies, organizations, and institutions to better understand the nature and consequences of injury to the brain,” said VA’s Dr. Micaela Cornis-Pop, the lead subject matter expert for the app. “We are looking forward to the Concussion Coach becoming a trusted resource among self-help tools for Veterans and others to manage the troubling symptoms of concussion.”

Concussion Coach was created by the National Center for PTSD in partnership with VA’s Rehabilitation and Prosthetic Services, and the Department of Defense (DoD)’s National Center for Telehealth and Technology. While the app can be used by itself, the National Center’s website says it “may be more helpful when used along with treatment from a health provider.”

To conclude, the picture used the Vermont Rural and Underserved Veteran Engagement (VARQU) logo for Winter 2015.
15,000 American troops remaining in the two countries, and 90 percent of the troops that were in harm’s way in 2009 are now home.

Now that our combat mission is over, America will increasingly turn to VA to care for these returning Veterans. Our mission in the Office of Research and Development is to discover knowledge and create innovations that inform and advance care for these Veterans—and for all those who rely on the VA health care system.

Our newest generation of Veterans is characterized by an increased number of reservists and National Guard members who served in combat zones; a higher proportion of women; and different patterns of injuries, such as multiple injuries from explosions, than were seen among Veterans of previous wars. We have a comprehensive research agenda to address the deployment-related health issues of America’s newest heroes.

Our researchers are pursuing ways to effectively address Iraq and Afghanistan Veterans’ most pressing mental and physical health issues. These include post traumatic stress disorder (PTSD), traumatic brain injury (TBI), traumatic limb loss, sensory dysfunction and loss, pain, and polytrauma. The work we do in these areas also benefits Veterans of all ages with similar issues, as do the studies we are undertaking to determine the effects of deployment on this cohort.

Some of our studies focus on post-deployment mental health concerns such as depression, anxiety, substance use, and suicidal intent, which make it difficult for returning Veterans to readjust to life back home. We have a continuing commitment to fund scientifically meritorious efforts to understand, prevent, and treat PTSD, and our research in this area focuses on potential treatment advances.

Veterans wounded in Iraq and Afghanistan have survived in greater numbers than those of previous conflicts due to advances in body armor, battlefield medicine, and medical evacuation transport. As a result, the study of neurotrauma, including the often-lifelong effects of TBI, is an important priority for our researchers. We are also supporting a wide array of research in engineering and technology, including advanced wheelchair designs and prosthetic limbs, to improve the lives of young Veterans who will be living with disabilities for many years to come.

Finally, VA’s Polytrauma System of Care is dedicated to the medical rehabilitation of Veterans and service members with combat and non-combat-related traumatic brain injuries and multiple other injuries. Our Polytrauma and Blast-Related Injuries Quality Enhancement Research Initiative promotes the successful rehabilitation, psychological adjustment, and community reintegration of those who have sustained polytrauma and blast-related injuries.

This issue of VA Research Quarterly Update will provide you with information on many of the ways in which our researchers are working to care for those who have borne the battle in our nation’s longest war. We are ready for the challenges of restoring these Veterans to their highest level of functioning and creating the best life possible for them, now that most of them have returned, or will soon be returning, home.

Timothy O’Leary, M.D., Ph.D.
Chief Research and Development Officer
From War to Home: Through the Veteran’s Lens

VARQU: What do you believe are some of the most powerful items in the exhibit, and why?

It’s difficult to pick any one story, because even though I’ve been doing this for about three years now, I still find each of them very moving.

One piece that really sticks out, not just for me, but also for many who see the exhibit, both Veterans and non-Veterans, is one by Tommy. It’s called “Fallen Soldier Battle Cross.” The picture is of a fallen soldier battle cross, for a close friend he had served with who
was shot by a sniper and killed while they were on patrol. Before they sent the soldier’s body home to his family, the other soldiers made a battle cross, which is a ritual arrangement of the soldier’s helmet, rifle, dog tags, and boots; some of his personal items; and a photograph of him.

It’s put up on a pedestal, and it’s something for the soldiers of his unit to look at and to honor him, think about him, and try to say goodbye to him as best they can before his body leaves. One of the reasons I think that photograph is really powerful is because it truly depicts the ritual and culture of the military, and how they honor fallen friends.

Also, the words Tommy used to talk about the photograph are really powerful, because he talks about what a terrible loss it was to lose this friend, and to have him die right next to him. But he also talks about the loss to the man’s family and to the others in the unit, and how everyone had really loved this guy, and he ends it by saying, “If it had been me, it wouldn’t have been such a big deal.”

I think that that really captures a lot of the themes I hear from Veterans about survivor guilt and the difficulty of processing the surreal experience of losing someone they care about who was right next to them. It depicts how some soldiers, especially younger soldiers who don’t have kids, really kind of devalue their own lives during a deployment. They think of others’ lives as more important than their own.

Another piece I think is really powerful is by Jose. Jose took a photograph out of the window of his car while he was driving down the highway. You see a long, grey road in front of you, and it’s during wintertime so the trees are bare.

Jose used the photograph to talk about how he felt depressed and suicidal after leaving the Navy. He talks about how he would drive down the highway feeling these thoughts of suicide coming into his head, and he was thinking it would be so much easier if he just flipped the car off the side of the road and died.

Many, many Veterans who have seen that piece said they had the same thoughts, especially while driving. But the really powerful part of Jose’s piece is how he talks about how, at a moment he was feeling that way, he felt the presence of God in the car with him. He felt as if God had touched his shoulder and said to him, “I’m here with you.”

It was a very powerful moment for Jose. He calls it his testimony, which in his Christian faith is the story of how he experienced the divine intervention of God in his life. That moment really turned things around for him. Many of the Veterans who have seen it felt the same way about wanting to die, but they also said they had lost touch with their faith, or their sense of a higher power, because it was difficult to have a sense of faith during a war. So they liked this piece because they liked that Jose could have that feeling, and that it could help him.

Jose is doing really well now, so it is a great piece about how Veterans are not stuck in a moment,
which is something many Veterans want to convey. They don’t want to be seen as stuck in a moment of depression or PTSD or suicidal thoughts. Instead, their lives are moving and changing. I think that the piece is even greater when you know that now he has a job, and a family, and that he’s no longer in that moment. So his photo also shows the resiliency of Veterans and how they move forward.

A third piece is by Tracy, who retired as an Army lieutenant colonel. She’s standing with her daughter who had just been commissioned as an officer. Both of them are standing in their full dress uniforms, and looking proud and happy. Tracy has a long quote that goes with the photo, about how when she came home from deployment and served in combat, she had PTSD. She also had issues with sleeplessness and depression when she came home.

But she really was in denial for a long time, and would not seek any help or admit that she was struggling. She talks about how she really felt the need to be strong, because she had been a lieutenant colonel, and didn’t want anyone to see her as less than 100 percent mission focused, strong, and resilient.

It finally dawned on her that if she didn’t admit that she had problems, with her daughter going into the military, and now she has another daughter going into the military, that she wasn’t setting a good example for her daughters—because they would think you would always have to keep a mask of invincibility on, and you should never admit you need help.

She didn’t want them to suffer the way she had suffered; she wanted to be able to admit to them that war changes you, and you may need help afterwards. She also talks about how her children were very affected by her going to war and coming home with her struggles, and they were very aware of those struggles. So it’s been really helpful for her children that she has sought help, and is doing better. It’s been great for her, and healing for her, but it’s also been great for her daughters to see that she is willing to get help and has been able to get that help through the VA and other places.

Another reason I think that piece is very powerful is because it shows us a lot about women in the military that we don’t usually know—that they serve in combat and the impact it has on them and on their families. It also represents how serving in the military can be a family tradition, how families are affected by one member’s service, and how they can help each other move forward after war.

VARQU: Would you explain the Photovoice method and its therapeutic value?

Photovoice is an approach to using visual data in qualitative health research. Participants’ photographs, and the description of their photographs, help to facilitate discussion of potentially difficult topics. More importantly, they really allow Veterans to be very engaged in the research project, and to be self-reflective. Being able to look at a picture and to talk about it is an easier way for people to disclose emotions.

The other part of Photovoice is that Veterans themselves become very involved in dissemination and interpretation of the findings of the project, and many of them become advocates. They are involved in the project well beyond the data collection phase; they give talks and presentations with me to health care providers, to medical students, civilian audiences, and to audiences within VA. Through their participation, they advocate not only for their own needs, but also the needs of others in their community. That’s very powerful for them.
A Chat with Our Experts

I’ve had Veterans tell me that this has really given them a sense of what they want to do next with their lives. Many of the Veterans in the project are going back to school, or are going into education. One Veteran wants to teach math to inner-city kids. He gives a lot of talks with me and it’s helping him with his public-speaking skills, and helping him think about how he wants to be an advocate for other Veterans.

There are Veterans in the project who have gone on to become social workers and who use the project’s methods in their own work. Participants see the method as a powerful way to give a voice to their own concerns, to the concerns of those they served with, and to help them serve as advocates for other Veterans going forward.

VARQU: Your PhD is in anthropology, and your expertise is in folklore studies. That’s an unusual background for a medical investigator. How does your background help you in your work, and how do you use your knowledge to help Veterans?

The orientation I come from in my training is that patients are experts in their own experiences. We need to go to them first to understand what their experiences are and what their unmet needs are. They are very important partners in identifying solutions to problems.

Also, coming from a folklore background, the emphasis in my training was really on how the role of cultural and religious values and people’s backgrounds and different identities are so important. They shape how patients think about health, and about seeking and remaining engaged in treatment. You also need to know something about a person’s background, experiences, and values in order to understand how they define “health” and what their goals are for recovery, and in the case of Veterans, what their goals are for community reintegration after separation from military service.

Also, I come from a discipline where we value the power of stories. Storytelling is a means of building common knowledge and bridging gaps between people with different experiences or backgrounds. The experience can be beneficial for the storyteller; participants in the Photovoice project say it is cathartic to share their stories with others. And with Photovoice, the Veteran controls what parts of their stories they want to share and with whom.

But there’s also something very powerful about stories for the audience. There is a great deal of research recently about the power of stories to convey a message, including new findings about how our brains react to stories, how stories help us build empathy, and remember lessons more vividly. In medical education, there is a growing recognition of how we can use the power of stories to help providers connect better with their patients.

VARQU: Where has the “From War to Home” exhibit been, where is it going, and how can a facility interested in displaying the exhibit learn how to do so?

The exhibit has been to nine different locations, including VA medical centers, international health care conferences, schools of medicine, and a liberal arts campus in California. It’s currently (December 2014) at the Bedford, Mass. VA medical center, and that’s been a really great experience. The exhibit is installed in the hallways that patients walk through to get to primary care, and the reaction has been so amazing and so positive that they’ve asked to extend the display for another six weeks.
A Chat with Our Experts

We’ve had requests from a number of VAs to host the exhibit. We’re still in talks about where it will be going, but one of the things that is really great is that most of these facilities have a Veteran-centered care committee, and these are really great people to work with along with the interior designer and people like that to get the exhibit installed. We’re hoping that it will go to as many VA facilities as possible, and we’d love to get the exhibit to Central Office in Washington, DC.

Having the exhibit on display at any VA facility reminds us of who we are serving and why we come to work every day.

People who want to learn how to bring the exhibit to their facility can visit our website (www.va.gov/FromWarToHome/) or email me at Jennifer.True2@va.gov.

Noteworthy Publications

Epilepsy in Veterans with traumatic brain injury—By studying the medical records of Afghanistan and Iraq Veterans who sustained TBIs, researchers at the South Texas Veterans Health Care System and the University of Texas found that Veterans with mild TBIs were about 28 percent more likely to have developed epilepsy than those without TBIs.

The researchers also showed that Veterans who suffered penetrating or severe TBIs had the highest risk of developing epilepsy, a finding also seen in previous studies. The study looked at 256,284 Iraq and Afghanistan Veterans who received either inpatient or outpatient care at VA in fiscal years 2009 and 2010.

A University of Texas news release quoted lead researcher Dr. Mary Jo Pugh: “We saw that 24 percent of the Veterans who had epilepsy also had experienced a TBI. That is compared to 11 percent of people without epilepsy. This is an important group to study because 15 percent to 19 percent of the more than 2 million returning Veterans have suffered a TBI with either loss of consciousness or altered mental status.”

Pugh further explained that studies of Veterans from World War II and the Korean War have shown a link between combat-related head injury and epilepsy. The research team concluded that because war-related epilepsy in Vietnam Veterans continued 35 years after the war, a detailed, prospective study is needed to understand the relationship between epilepsy and TBI severity in Iraq and Afghanistan Veterans. (Journal of Head Trauma Rehabilitation, April 1, 2014, epub ahead of print)

Who uses VA health care after deployment?—Many service members return from deployment to Iraq and Afghanistan with serious injuries, including TBIs. Others have ongoing psychological health problems, including PTSD, depression, and substance abuse problems.

Researchers with the VA Palo Alto Health Care System, the Defense Health Agency, and Brandeis University looked at the rates of use of the VA health care system and the factors that might predict whether these Veterans use the system in the 365 days following their demobilization from a deployment. Their sample
Seeking genes for PTSD risk—VA investigators and colleagues with the Marine Resiliency Study tested the DNA of nearly 3,500 Marines, all of whom had already been exposed to combat and some of whom had developed posttraumatic stress disorder, to see if they could link a particular gene or genetic variation to the condition. The researchers found evidence of a gene called PRTFDC1 as a “potential novel PTSD gene.” The apparent linkage between this gene and PTSD held true across all racial and ethnic groups represented in the study. The authors note that the finding needs to be replicated in further studies.

By the same token, the study team found little association between PTSD and 25 other genes that had been suggested as potential PTSD risk factors in previous studies.

The authors note that while PRTCFDC1 may pan out as a viable PTSD gene, it is more likely that the genetic component of PTSD risk involves small effects from many different genes. This theory on how genes affect mental illness jibes with findings from recent genomic studies on other conditions. (Psychoneuroendocrinology, January 2015)
Other Recent Publications


Impact of combat deployment and posttraumatic stress disorder on newly reported coronary heart disease among US active duty and reserve forces, NF Crum-Cianflone et al. Circulation, May 6, 2014


For more recent publications, see the online version of VARQU at www.research.va.gov/pubs/varqu

In the News

Charleston VA Medical Center unveils brand-new mental health research facility—The Charleston Post and Courier and other media outlets reported on the Dec. 8, 2014, opening of a new mental health research building at the Ralph H. Johnson VA medical center in Charleston, S.C. Interim Under Secretary for Health Dr. Carolyn Clancy attended the ribbon-cutting ceremony, and VA Deputy Secretary Sloan D. Gibson toured the facility on Dec. 5, before the opening.

The new $9.9 million, 16,000-square-foot facility includes five basic science labs, 27 treatment rooms, and three group therapy rooms. It will allow researchers to better collaborate on cutting-edge mental health treatments.

Dr. Donald L. (Hugh) Myrick, Charleston’s associate chief of staff for mental health services, told the Courier, “When people get together, people talk. People start getting ideas, they start collaborating. Our genetics guy will talk to the PTSD guy and say ‘You’re putting in this grant, we should put this genetic component into it or this imaging component to it.”

And Dr. Peter Tuerk explained to the Courier that the new space is also more convenient for patients. Previously, Veterans who participated in mental health trials bounced around the hospital because researchers and labs were scattered on different floors. “Now, they can just come on in, have one nice experience here, one waiting room—much, much quicker turnaround,” he said.

VA pain research featured in Scientific American—The work of Dr. Stephen G. Waxman, founder of the Neuroscience and Regeneration Research Center at the West Haven VA Medical Center and a professor at Yale University, and Dr. Suleyman Dib-Hajj, also of VA and Yale, were featured in a December 2014 Scientific American article titled “Prospects for Treating Chronic Pain Are Improving.”

The article stated that an estimated 100 million Americans struggle with chronic pain, most often in the form of back pain, headaches, and arthritis. Chronic pain affects more Americans than diabetes, cancer, and heart disease combined, and according to the article, costs as much as $635 billion a year in medical care and lost labor.

The article cited Waxman and Dibb-Hajj’s work confirming that a mutation in a gene involved with the brain’s extensive pain network can lead to hyperactivity of a voltage sensor in the body called NaV1.7. Also mentioned was Waxman’s work with collaborators in the Netherlands that found this mutation in 30 percent of a group of patients with unexplained pain, and the work of the two investigators in finding that an anti-seizure drug called carbamazepine can calm NaV1.7’s hyperactivity.
In the News

The article quotes Waxman as saying that these findings are exciting because they suggest that basing pain therapy on the patient’s genetic makeup “is not unrealistic.” Writer Stephani Sutherland points out that several pharmaceutical companies are now developing drugs targeting the NaV1.7 voltage sensor.

GRECC to open in new Denver VA Medical Center—VA’s first new Geriatric Research, Education and Clinical Center (GRECC) to open in more than 15 years will be part of the new Denver VA Medical Center, now under construction in Aurora, Colo.

The Denver Post and other local news outlets reported that the new GRECC will offer 6,000 square feet of lab space and 800 square feet of office space inside a 59,000-square-foot research building that will be an integral part of the new facility. According to the Post, the estimated opening date is May 2015.

GRECCs were originally developed to attract scientists and health care students to the field of geriatrics, in order to increase basic knowledge of aging, transmit this knowledge to health care providers, and improve the quality of care delivered to older Veterans. There are currently 19 GRECCs across the nation. Demographics and profiles of those GRECCs can be found here.

For more 'In the News', see the online version of VARQU at www.research.va.gov/pubs/varqu

Honorable Mentions

Gene therapist receives Magnuson award—Gene therapy pioneer and longtime VA researcher Dr. David Fink received the 2014 Paul B. Magnuson Award in a ceremony at the VA Ann Arbor Healthcare System on Dec. 15, 2014. Fink, who has been with VA since 1982, is a staff neurologist and an investigator with the Ann Arbor VA’s GRECC whose work has led to discoveries that alleviate pain in Veterans. He is also the Robert Brear Professor and Chair of Neurology at the University of Michigan.

Fink has pioneered methods to introduce genes into the body to treat chronic pain and other nervous-system diseases. His team led the first human clinical trial of gene therapy for pain, on a group of cancer patients with severe pain that had failed to respond even to high doses of morphine. The trial was
successful, and a larger trial of the approach is now being planned. Besides cancer pain, his work has also focused on reducing pain in Veterans and others with nerve-related conditions such as spinal cord injury and diabetic neuropathy.

The Magnuson award honors the life and legacy of Dr. Paul B. Magnuson, who as a bone and joint surgeon continuously sought new treatments and devices for assisting his patients as they faced unique situations presented by their disability. The award is presented annually to a VA investigator who exemplifies the entrepreneurship, humanitarianism, and dedication to Veterans that Magnuson displayed.

Collins honored for nursing research—
Dr. Eileen G. Collins received the Thomas L. Petty Distinguished Pulmonary Scholar Award from the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) at the group’s annual meeting in September 2014. Collins directs the Physical Performance Laboratory at the Edward Hines Jr. VA Hospital in Hines, Ill. She is also a professor in the College of Nursing at the University of Illinois at Chicago. Her research focuses on improving the quality of life of patients with chronic illnesses through physical activity, using innovative approaches such as computerized biofeedback for extending exercise endurance.

She has tested the use of walking poles to improve mobility and exercise endurance in patients with peripheral arterial disease, and has studied energy expenditures among people with spinal cord injury in order to determine appropriate exercise recommendations for that population.

Most recently, she was the lead author on a position paper for the AACVPR providing clinical competency guidelines for pulmonary rehabilitation professionals. The paper was published in the September-October 2014 issue of Cardiopulmonary Rehabilitation and Prevention.

Two share Barnwell Award—VA’s Clinical Science Research and Development division has announced that Dr. Philip D. Harvey of the Miami VA Healthcare System and Dr. Michael Oxman of the San Diego Healthcare system are joint recipients of VA’s John Blair Barnwell Award for 2014.

Harvey was recognized for his research in cognitive and functional deficits in patients with schizophrenia, and for his contributions to advancing the diagnosis and treatment of the condition in the Veteran population. He is currently chairing a 25-site VA study to examine 18,000 Veterans with severe mental illness and to identify the genetics of impaired everyday functioning. He also has a $3.2 million grant from the National Institute of Mental Health for a study aimed at improving everyday functioning in schizophrenia.

Harvey is also professor of psychiatry and behavioral sciences and chief of the division of psychology at the University of Miami’s Miller School of Medicine, and is the first psychologist to receive the Barnwell Award.

Oxman was recognized for his significant contributions to the diagnosis, treatment, and prevention of viral diseases, particularly those in the herpes family. His work on shingles prevention has played a vital role in treating that disease and in the development and evaluation of the herpes simplex and varicella-zoster virus treatments. His leadership was integral to the success of the VA-NIH Shingles Prevention Study, one of the largest adult vaccine trials ever, and he and the study team continue to analyze data and observe the large study population.

The John Blair Barnwell Award honors outstanding achievement in clinical science. It recognizes senior VHA investigators who have achieved international acclaim for clinical research accomplishments in areas of prime importance to VA’s research mission and who have also demonstrated a high level of clinical commitment to the patient population.

For more "Honorable Mentions," see the online version of VARQU on our website: www.research.va.gov/pubs/varqu