

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 2017

WEDNESDAY, MARCH 9, 2016

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:33 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Thad Cochran (chairman) presiding.
Present: Senators Cochran, Murkowski, Blunt, Daines, Durbin, Mikulski, and Schatz.

DEPARTMENT OF DEFENSE

DEFENSE HEALTH PROGRAM

STATEMENT OF LIEUTENANT GENERAL NADJA WEST, SURGEON GENERAL, DEPARTMENT OF THE ARMY

OPENING STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. Good morning. The Subcommittee will come to order. Today we are reviewing the fiscal year 2017 budget request for the Defense Health Program with a distinguished panel of witnesses.

Lieutenant General Nadja West, Surgeon General of the Army.
Vice Admiral Forrest Faison, Surgeon General of the Navy.

Lieutenant General Mark Ediger, Surgeon General of the Air Force.

Mr. Christopher Miller, Program Executive Officer of the Defense Health Care Management Systems.

Our military has made great strides in many areas ranging from disease research and treatment to expedited treatment and medical evacuations off the battlefield, all to provide better training and education techniques for advanced learning.

We're particularly proud of the work performed in our State at Keesler Air Force Base. The 81st Medical Group flies out of there.

In July 2015 the Department was awarded a \$4.3 billion contract for its new electronic health records system. As procurement and deployment of the new records system continues in fiscal year 2017, we sincerely hope that the Department of Defense will not lose sight of the goal of being fully interoperable with the Department of Veterans Affairs.

While budget constraints remain in place, healthcare costs continue to grow. The budget request proposes a consolidation of

TRICARE and modest increases in pharmacy co-pays and in enrollment fees.

I look forward to hearing your views on these proposals and how we can improve the access, quality, and safety of the healthcare we provide to servicemembers and their families both today and in the future.

[The statement follows:]

PREPARED STATEMENT OF SENATOR THAD COCHRAN

Today, the Subcommittee on Defense Appropriations is reviewing the fiscal year 2017 budget request for the Defense Health Program. We are pleased to welcome:

- Lieutenant General Nadja West, Surgeon General of the Army;
- Vice Admiral Forrest Faison, Surgeon General of the Navy;
- Lieutenant General Mark Ediger, Surgeon General of the Air Force; and
- Mr. Christopher Miller, Program Executive Officer of the Defense Healthcare Management Systems.

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Senator COCHRAN. We will put your full statements, which you have prepared, in the record.

I'm now pleased to turn to the distinguished Vice Chairman of our Committee, Senator Durbin, for any remarks he would care to make.

STATEMENT OF SENATOR RICHARD J. DURBIN

Senator DURBIN. Thank you, Mr. Chairman.

Let me first apologize for being a few minutes late. I'm in the Judiciary Committee with a hearing with the Attorney General about a block away. So I'm trying to balance both.

This is an important hearing. I'm glad that these witnesses have come to testify today.

DOD (Department of Defense) medical research has led to profound improvements in the care of our troops and in the health of America. Recent improvements in trauma medicine have increased survival rate for battlefield injuries to over 90 percent, unthinkable in previous conflicts. It is the reality today.

One reason why.

Over the past several years we have dramatically increased, excuse me, medical research through the Department of Defense. There have been many breakthroughs in battlefield medicine, medical devices and infectious disease as a result.

I also want to commend our military for their leadership role, global leadership role, in dealing with Ebola, the outbreak. We de-

pended on our military to really, literally, save parts of Africa and our world from this outbreak.

We also know that your pitching in, when it comes to the outbreak against the Zika virus today.

Medical readiness is a key component of military readiness.

I've spoken to many of you and I will raise again in this hearing the fact that the rate of tobacco use within our military is higher than in civilian life. And we know what the costs are in terms of the health of the men and women who serve our Nation. We need to be conscientious in reducing that number.

I would close by saying there's one unsettling moment in the last few months when I was handed a reprogramming request for about two billion dollars that was misspent through our medical programs on compound pharmaceuticals. It was an outrage what happened. But I want to hear more to make sure that we are going to put an end to that kind of abuse in the future.

I look forward to your testimony.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF SENATOR RICHARD J. DURBIN

Mr. Chairman, I am pleased to join you in welcoming our witnesses to our hearing on the fiscal year 2017 budget request for the Department of Defense health programs.

It is a unique opportunity to have three new Surgeons General testifying today. I look forward to hearing their thoughts on the state of military medicine in general, and particularly on the benefits of medical research and what more we can do to discourage tobacco use among service members.

I also welcome Mr. Miller, with Defense Healthcare Management.

DOD medical research has led to profound improvements in the care of our troops, and Americans as a whole. For example, recent improvements in trauma medicine have increased the survival rate for battlefield injuries to over 90 percent.

That is one reason why, over the past 3 years, this Subcommittee—working on a bipartisan basis—has increased funding for defense medical research by over 25 percent.

Our troops clearly benefit from this research. We can count the breakthroughs in battlefield medicine, medical devices, infectious disease, the treatment of traumatic brain injury—the list goes on. Many of these breakthroughs apply to the civilian sector as well.

DOD medical investments play a critical role in getting ahead of infectious diseases as well—protecting our homeland while also helping our allies. For instance, the U.S. military played a critical role in responding to the Ebola outbreak. DOD is also lending its unique research expertise to the fight against Zika.

The subcommittee has recently completed posture hearings with each of the Services. One major theme for this year is the emphasis on military readiness, or making sure that our troops are trained, equipped and ready to answer the call to deploy.

Medical readiness is a key component of military readiness. Every soldier, sailor, airman, and Marine must be physically ready to meet the challenges ahead.

It is a scientific fact that tobacco use impedes physical fitness and makes recovery from injury harder. Given all that we know about the negative effects of tobacco, I will ask our witnesses what they are doing—and what else we can do—to reduce the use of tobacco in the armed forces.

We have a host of other challenges to consider as well—possible military healthcare reform, keeping an eye on the cost of compound pharmaceuticals, making progress on developing the integrated Electronic Health Record, and our continuing fight against sexual harassment and reducing the incidence of suicide. All of these subjects speak to the breadth and depth of the myriad issues you must deal with every day.

Across all of these domains, to be successful we must continue to innovate, and an example of healthcare innovation is found in my home State of Illinois. The Lovell Federal Health Care Facility is a joint venture between DOD and the VA

which is piloting new and more effective ways to provide healthcare services to service members and veterans. While there are challenges in integrating these two cultures, we are learning a great deal that is applicable to our future ability to provide better care to these populations.

We have a lot to discuss here today and I thank you for your testimony and again for your service to our Nation.

Senator COCHRAN. Thank you, Senator.

Let me first call on Lieutenant General Nadja West, the Surgeon General of the Army for his comments or statement at this time.

SUMMARY STATEMENT OF LIEUTENANT GENERAL NADJA WEST

General WEST. Good morning, Sir.

Chairman Cochran, Vice Chairman Durbin and distinguished members of the Subcommittee, thank you for the opportunity to appear before you today to discuss Army medicine and highlight the important work the soldiers and civilians of this unique organization perform daily in support of our Army and our nation.

Before I begin, though, on behalf of the dedicated professionals within Army medicine I would like to extend our appreciation to Congress for your continued support of what we do. And we hope that you're proud of our efforts.

I would like to open by recognizing America's sons and daughters currently in harm's way. Ninety-eight hundred troops that are committed to operations in Afghanistan, 36 hundred in Iraq and over 176 thousand forward stationed or deployed in 140 countries around the world. They remain foremost in my mind as our primary mission is to support the war fighter.

Since 1775 we have remained one team with one purpose, conserving the fighting strength, to support the war fighter and all those entrusted to our care. Army medicine is comprised of a committed team of over 150 thousand professionals who provide a continuum of integrated health services, research and training and education that no other healthcare organization in the world can provide. Army medicine combined with our Navy and our Air Force colleagues comprise a joint medical force without peer.

Today I would like to focus on where we are now and provide an overview of my priorities for Army medicine.

So the Army is the foundation for the Joint Force. And Army medicine is the foundation for the Joint Health Services Enterprise. For the past 14 years we've supported joint campaigns in Iraq and Afghanistan, responded to natural disasters and have taken decisive action during other contingencies such as was just mentioned, the U.S. Government response to the Ebola outbreak in West Africa. And in doing so Army medicine remains and it continues to prove to be the Nation's premier expeditionary medical force meeting the challenges of a complex world and we remain globally engaged, regionally aligned and surge ready to face the ever changing challenges of tomorrow.

So Army medicine's first priority, readiness and health, is a direct reflection of my Chief General Milley's number one priority, readiness.

As he says, "Readiness is number one and there is no other number one." So we see readiness as health, readiness and health, closely coupled as our Army derives its power from the collective strength of our soldiers rather than advanced platforms. So our sol-

diers are our most prized and effective weapon systems and a soldier's health is an essential component of his or her readiness.

While we focus on our readiness mission, we must also ensure we provide all those entrusted to our care with access to high quality and safe healthcare.

As we look for ways to continue to improve how we operate, we see improving access to care as a matter of concern for all of us. While we've improved access by 21 percent since 2014, we're still not fully meeting our beneficiary's expectations. And so accordingly I've directed actions to rapidly improve access to care.

So I have a goal of creating 260 thousand appointments, more of those primary care visits which is above the 6.1 million visits that we provided last year and 119 thousand more specialty care visits which is above the 7.9 million appointments and visits we provided during that same timeframe.

We're also evolving our model of healthcare delivery to include basically health delivery which is a part of access, I think, more in the engagement with our beneficiaries which might lead to requesting less appointments and therefore improving access.

My next priority, force development, is designed to better prepare Army medicine for the challenges of tomorrow. The price for the so-called conceit of the present, meaning not recognizing the need to be always prepared, is very high indeed. I need only reference Task Force Smith to evoke images of soldiers paying the price in blood for a lack of readiness for an unknown future.

My commitment to our Nation, our Army and to Congress today is that the Army will never, will never, be caught unprepared for tomorrow's challenges.

Taking care of our soldiers, their families and our DA-civilians and our retired population is integral to all we do. Our people are our most precious resource and we will continue to care for them. Army medicine will continue to stand as a unique organization that has the versatility, the agility and the scale to adapt to the challenges that arise at home or abroad.

Our Nation's mothers and fathers know that when their sons and daughters become ill or injured, we are ready, we are there and this is truly a sacred trust to our Nation. Our readiness to support our war fighters can never and will never be in doubt. Army medicine stands ready to support those who serve our Nation.

And I thank Congress for your continued support in our Army, in our soldiers and to Army medicine and I look forward to your questions.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL NADJA WEST

Chairman Cochran, Ranking Member Durbin, and distinguished members of the subcommittee, thank you for the opportunity to appear before you to discuss the future of Army Medicine and highlight the important work the Soldiers and DOD civilians of this world-class organization perform daily. On behalf of these dedicated professionals, I extend our appreciation to Congress for your faithful support to military medicine.

Let me open by recognizing America's sons and daughters currently in harm's way—9,800 U.S. troops are committed to operations in Afghanistan, approximately 3,500 in Iraq, and over 176,000 forward-stationed or deployed around the world.

Army Medicine is comprised of a committed team of over 150,000 Active Duty, Reserve Component, Civilian and Contract professionals who serve on five continents and across 18 time zones, providing cutting edge medical readiness and healthcare throughout the world.

I am honored to have the privilege of serving as The Army Surgeon General and Commanding General of U.S. Army Medical Command. Since 1775, Army Medicine has supported our Nation and our Nation's Army whenever and wherever needed. For the past 14 years we supported Joint campaigns in Iraq and Afghanistan, responded to natural disasters, and took decisive action during other contingencies such as the U.S. Government response to the Ebola outbreak in West Africa. Because demands on the Army will remain constant, Readiness is my #1 priority.

As always, we fully intend to maintain our long-standing commitment not only to treating the wounds of war, but also the non-combat injuries and illnesses of our Soldiers, their families, and our retirees. My four priorities are: (1) Readiness and Health; (2) Healthcare Delivery; (3) Force Development; and (4) Taking care of Soldiers, their families, DA civilians, and retirees. These four priorities are strategically nested with those of the U.S. Army and the Joint Health Services enterprise (JHSent). No matter the challenge, these priorities will allow Army medicine to provide the support necessary for our Soldiers to fight and win in a complex world.

BUDGET OVERVIEW

Our fiscal year 2017 budget request provides adequate funding to support the essential elements of our four priorities. Military medicine and the Army have seen almost no budget increases in the past 4 years. To control expenditures we have achieved efficiency and productivity gains to control our costs. We have done that while improving access and ensuring quality. Our fiscal year 2017 request is lean but adequate.

I would like to highlight the people aspects of our budget which supports a military, civilian and contracted workforce that is essential to our ability to deliver healthcare. Healthcare is still a tough business and requires skilled professionals to deliver services. In recent years Army Medicine has struggled to attract and retain the civilian workforce necessary to ensure mission success and achieve improvements in healthcare access and quality among other programs; having lost nearly 5,000 civilian employees as a result of sequestration. Because our workforce has been smaller than needed, for the last 2 years Congress reduced our labor budget below requested levels. However, our civilian workforce has finally stabilized at budgeted levels. Our fiscal year 2017 request reflects the amounts necessary to sustain our current workforce. Additional reductions by Congress will require us to reduce services and curtail programs that we rely on to maintain our readiness.

While the Bipartisan Budget Agreement Act of 2015 provides short-term predictability for fiscal year 2016 and fiscal year 2017, the fiscal uncertainty beyond fiscal year 2017 presents a significant challenge. If sequestration returns, Army Medicine will face further reductions to military and civilian personnel which will likely force us to reduce services and cause us to convert more hospitals to clinics. Operating under these conditions would exacerbate our challenges with access and not allow sufficient mitigation strategies to address potential safety concerns that may be provoked by low patient volume. In addition, this would negatively impact our ability to support the health readiness of our Soldiers, impact the readiness of our providers, and break trust with our Soldiers, Families, and Retirees, by forcing them to the TRICARE network.

READINESS AND HEALTH: OUR TOP PRIORITY

The global security environment continues to degrade and place high demands on the United States Army. The Army's number one priority is Readiness.

Army Medicine's primary mission is supporting the Warfighter. In supporting the Warfighter, we uphold the solemn commitment our Nation's Army has made to our Soldiers when sending them in harm's way. Army Medicine has a two-fold readiness mission. We must ensure Soldiers are medically ready to deploy, and we must generate and maintain a rapidly responsive and broad spectrum of medical capabilities—properly trained and equipped individuals and units—while supporting our Soldiers, Families, and Retirees at home.

Soldier Health Readiness

The Army derives its power from the collective strength of its Soldiers rather than advanced platforms. Our Soldiers are our most prized and effective weapons system. A Soldier's health is an essential component of his or her readiness. Although, medical readiness of the force has increased from 73 percent to 83 percent since 2012,

more than 57,000 Soldiers across all Components were medically non-deployable as of January 31, 2016. In the Active Component alone, 29,800 were medically non-deployable, equivalent to approximately 6.5 Brigade Combat Teams worth of Soldiers. In 2015, Army Medicine published the inaugural 'Health of the Force' report to provide leaders with a more holistic understanding of the health readiness of the force.²

Seventy-six percent of the non-deployable Soldiers have a related musculoskeletal injury (MSKI). Many MSKI are preventable; 80 percent are the result of physical training overuse and sports related injuries. Obesity and low levels of fitness also degrade medical readiness. Despite current body composition standards, 13 percent of Soldiers have body mass index (BMI) ≥ 30 , which is considered clinically obese. These Soldiers are 86 percent less likely to be medically deployable. Obese service members in a brigade in Afghanistan were 40 percent more likely to experience an injury than those with a healthy weight. Sleep deprivation, fatigue and insomnia are comorbid with mental illnesses and injuries, reduce mission readiness and contribute to Service Member medically non-deployable profiles.

In 2012, Army Medicine continued our evolution to aggressively transition from a healthcare system—a system that primarily focused on treating injuries and illness—to a System for Health to proactively focuses on improving health and wellness of all Service Members, Families, and Retirees. Health readiness and fitness are fundamental to Soldier performance and comprise the foundation of the Army's combat power and land dominance. Army Medicine has partnered with key stakeholders across the Army to develop the Performance Triad Strategy. This is a comprehensive strategy to invest in our Soldiers, DA-Civilians, Retirees, and their Families with the goal to enhance personal health readiness, sustain resilience, and optimize performance. As part of our comprehensive strategy, programs like the Performance Triad (P3) augment other initiatives such as Army Wellness Centers, Move to Health, and Go Dental First Class. Our medical readiness transformation is aimed to improve health readiness while providing better tools and resources for Command Teams.

Performance Triad Training Programs & Products

The Performance Triad (P3) training programs and products are the cornerstone of the System for Health and link directly to the Army's Ready and Resilient Campaign and the Army Human Dimension Strategy. The P3 strategy provides tools for unit and installation leaders to improve the physical, cognitive, and emotional fitness and health of their Soldiers through techniques that optimize restful sleep, regular physical activity, and good nutrition. Based on pilot study results beginning in fiscal year 2014, the Performance Triad is a solution and key enabler to improve individual and unit readiness. It synchronizes the best advances in sports science and technology to improve knowledge, attitudes and behaviors in relation to sleep, activity, and nutrition.

The fiscal year 2014 pilot was conducted in three active duty battalions from August 2013 to May 2014. It confirmed Soldiers are not meeting the basic Performance Triad targets essential for health, performance, and readiness. Only 4–5 percent of Soldiers met all sleep targets, 29–42 percent met all activity targets, and only 2.4–3.6 percent met all of the nutrition targets across the three units.

The fiscal year 2014 pilot yielded valuable insights which shaped the fiscal year 2015–2016 pilot to improve the reach, adoption, implementation, and maintenance of the program Army wide. The fiscal year 2015–2016 pilot expanded the program to approximately 11,000 active duty Soldiers across five FORSCOM brigades, the Army Medical Department Center and School (AMEDDC&S), one Army Reserve brigade, and one Army National Guard brigade. The cost of the current study is \$6,700,000 million which we believe is an investment in Total Army Family and health readiness. The fiscal year 2015–2016 pilot will conclude Summer of 2016 and the formal analysis will be completed Fall of 2016, and will inform Army wide implementation.

Preliminary fiscal year 2015–2016 pilot results indicate that Soldiers expect the Army to treat them as tactical athletes. Army-wide implementation can impact at a minimum, preventable disease, illness, and injury. Also, we anticipate a rising trend in self-monitoring of personal health readiness and an increase in peer support. While these are promising mid-point findings, the formal analyses this fall will garner more accurate results. Successful implementation of Performance Triad across the Total Army will improve the health readiness of the force. Optimization of each individual's performance becomes more critical as the Army end strength decreases and budgets decline. By applying the lessons learned from the fiscal year 2014 pilot and through the ongoing fiscal year 2015–2016 pilot, we are changing the culture of the Army by embedding the Performance Triad into the Army's DNA.

Move-to-Health Program

The “Move to Health” Program educates healthcare teams to focus on improving health outcomes, by integrating the Performance Triad, mindfulness, and other health and wellness initiatives for our beneficiaries. It provides clinic personnel with additional tools to engage Soldiers and their Families to empower them to be active partners in their health and healthcare outside of clinic or hospital settings. The curriculum is adapted from the Veteran’s Health Administration (VHA) “Whole Health” program.

The “Move to Health” pilot was launched at eight of our facilities and trained 376 physicians, nurses, and other health professionals. The Army Public Health Center (Provisional) provided oversight. Although the final evaluation results are pending, the initial results are promising. Based on improved team performance noted locally, Madigan Army Medical Center has already decided to train 100 percent of its teams on “Move to Health”. The initial results demonstrated significant improvements in self-efficacy, attitudes towards patient-centered care, and an increased willingness to engage in holistic health and behavior approaches to address pain management, cardiovascular disease, and gastrointestinal disease.

Army Wellness Centers

Army Wellness Centers (AWC) provide community based health promotion services to promote and sustain healthy lifestyles and to enhance the readiness of the force. AWCs represent an actionable platform to deliver evidence based practices designed to promote positive lifestyle change. All staff members of our Army Wellness Centers are trained in wellness coaching. Equipment utilized in an AWC is composed of advanced technology to measure the four components of physical fitness—cardiorespiratory, body composition, muscular fitness, and flexibility. Stress, nutritional habits, and other health behaviors are also assessed. These services are supported by a budget of nearly \$70 million.

In 2015, 27 locations met the standards and were classified as AWCs. In fiscal year 2016, we will add four new sites with full implementation of 37 AWCs occurring by the end of 2018. Active Duty Soldiers made up the majority of AWC participants served (63 percent), followed by Family members (20 percent), Department of the Army civilians (9 percent), Retirees (3 percent), Unreported (3 percent), and Reservists (2 percent). The overall consumer satisfaction rating was 97 percent, and each individual Army Wellness Center either met or exceeded the goal of 95 percent satisfaction.

Forty-eight to 58 percent of participants who set a goal with the Army Wellness Center health educator to lose weight saw a significant decrease in BMI. Clients who returned for follow-up within 1 year generally improved their risk factors for disease. Improvements were observed in body fat, body mass index (BMI), diet and nutritional habits, perceived stress, cardiorespiratory fitness, and blood pressure.

Dental Readiness

Go First Class (GFC) is a comprehensive Army-wide initiative that simultaneously addresses dental readiness, wellness, and prevention while returning valuable training time to Soldiers and their units. During their annual dental exam, Soldiers now routinely receive a dental cleaning, and if needed dental fillings. Soldier benefits include spending less time traveling to and from dental appointments, reducing the number of hours spent in the clinic, and eliminating the requirement for follow-on appointments.

Since January 2011, Go First Class and other initiatives have contributed to a 25 percent decrease in acute care appointments, a 50 percent reduction in Dental Readiness Classification 3 (non-deployable), and a 60 percent reduction in all treatment needs. GFC has directly improved Soldiers’ Dental Readiness (deployable) and Dental Wellness (no dental needs), reaching all-time historic highs of 96 percent and 60 percent, respectively.

Medical Readiness Transformation

As the Army downsizes from its peak of 566,000 Active Duty personnel to 450,000 by the end of fiscal year 2017, the Army must reduce the number of medically non-deployable Soldiers to retain combat power. Therefore, Army Medicine is leading a medical readiness transformation to improve Command Teams’ visibility of medical readiness information at all levels. This will simplify the process by which they make deployability determinations and lead to timely identification, corrective action, and accountable oversight of unit and individual medical readiness.

We are redesigning the process of profiling, which documents Soldier’s temporary and permanent medical and behavioral health conditions as well as any functional limitations, in order to improve transparency and consistency in communicating

medical readiness information to Commanders. Soldiers will no longer have overlapping temporary profiles, and will instead have a single active profile for all conditions. The Army is simplifying the Medical Readiness Classification (MRC) codes used to identify Soldiers as being “deployable” or “non-deployable.” We have developed a new “Commander’s Portal” to allow Command teams to more easily view Medical Readiness data and make deployability determinations without requiring log on to multiple systems.

The newly developed Medical Readiness Assessment Tool (MRAT) allows commanders and clinicians to proactively address medical readiness by identifying Soldiers with recurring medical profiles that are headed down a trajectory that could result in a permanent deployment limiting profile. It does this through a predictive model that identifies a Soldier’s risk for becoming medically non-deployable during the next 12 months. Awareness of these high risk Soldiers enables clinicians to intervene to determine root causes for medical issues and develop courses of action to maximize readiness of the Soldier and ensure he or she receives the care needed.

We are aggressively training the force to fully implement the Medical Readiness Transformation by June 1, 2016.

Responsive Medical Capabilities

The Army must maintain a rapidly responsive and broad spectrum of medical capabilities that can conduct rapid deployment in support of Combatant Commanders’ requirements. Our medical capabilities must be prepared to support the full range of military operations with mission ready personnel able to rapidly transition from garrison to delivering the appropriate health service support in an area of operation.

During the past 14 years of combat operations, our trained and ready medical providers contributed to a survivability rate of 92 percent, the highest in the history of warfare, despite the increasing severity of battle injuries. These advances in combat casualty care resulted from our integrated healthcare system that spans the continuum of care from prevention, to treatment of illness or injury, to recovery and rehabilitation in garrison.

However, focusing exclusively on sustainment of combat trauma, surgery and burn capabilities would be a failure born of shortsightedness and could potentially lead to catastrophic consequences for the future. Our experience shows that the Army must maintain a broad range of medical capabilities to support the full range of military requirements. From 2001 to 2015, only 16 percent of those evacuated from Iraq and 21 percent of those evacuated from Afghanistan were injured in battle. The remaining Service members, 84 percent in Iraq and 79 percent in Afghanistan, were evacuated for disease or non-battle injuries. Similarly, greater than 95 percent of those that received care and remained in theater were treated for disease and non-battle injuries rather than combat injuries.

The 2014 deployment of over 2,500 personnel to support Operation United Assistance in Liberia demonstrated the value of non-trauma related medical specialties. Infectious disease is often a major threat to our Soldiers rather than armed combatants. The geographically endemic medical risks to our forces in support of the rebalance to Asia and operations in Africa point to the continued need to remain ready to utilize the entire spectrum of Army medicine in the execution of all manner of military contingency operations.

In fiscal year 2015, the MEDCOM deployed 1,998 Soldiers to support a variety of missions supporting Combatant Command requirements. Of these, 238 personnel deployed to support 38 theater security cooperation missions; 129 Soldiers and civilians conducted 55 subject matter expert exchanges; and 139 employees were integral team members on 59 Defense Threat Reduction Agency (DTRA) missions. As of January 6, 2016, 354 MEDCOM Soldiers were deployed and another 159 were in a prepared to deploy status in support of globally integrated operations.

Army Medicine capabilities employed in Global Health-related engagements contributed in numerous areas in support of Combatant Commands to include battling Ebola (Africa), rabies wildlife prevention program (Kosovo), regional tropical disease research, bio surveillance and threat reduction (Thailand, Republic of Georgia and Kenya), proliferation of best practices in prosthetics and rehabilitation (UK, Pakistan, Republic of Georgia), advancement of professional military nursing (France, Vietnam, and Japan) and support to exceptional medical care cases through the DOD Secretarial Designee Program (Norway, Afghanistan, Australia, Ecuador, Italy, Romania, and the Republic of Georgia).

We see our medical centers, hospitals and clinics as our health readiness platforms. They ensure we maintain trained and ready medical personnel. Our large medical centers serve as specialized training centers for our medical teams to provide care and clinical research for complex battle injury and illness. Our medical centers are complemented by a variety of military treatment facility types, from am-

bulatory clinics to community hospitals that prepare our medical force to provide primary and routine specialty care in a myriad of settings and conditions around the world. These facilities must be capable of enrolling a broad range of patients with a wide variety of illnesses and injuries.

Army Graduate Medical Education (GME) programs are critical to develop trained and ready medical personnel. Army GME is the largest GME platform in the DOD and supplies more than 90 percent of all Medical Corps (MC) physicians for the Army. Our GME programs have nearly 1,500 trainees in 149 programs. The vast majority (93 percent) of Army GME training is conducted at 10 military treatment facilities. The remaining 7 percent is conducted in approximately 64 civilian academic institutions, primarily for fellowships. Civilian GME programs do not have the capacity to absorb our interns, residents, and fellows. Our GME programs continue to lead the Nation in training. The first time board certification pass rate of 95 percent across Army GME exceeds the 87 percent national rate. Agile GME program management assures ongoing alignment of training slots with deployment and readiness requirements.

The Army continues to increase its partnerships with the VA through sharing agreements that provide care to VA beneficiaries in various healthcare facilities that have excess capacity. Treating VA beneficiaries supports Army GME programs and provider readiness. This is due to the fact that VA patients typically have needs that are much more complex and extensive than normally seen in Soldiers and family members. Further, this enables VA beneficiaries to receive high quality, cost effective, and timely care in locations where the VA may have limited capability or resources. In fiscal year 2014, Army Medicine provided \$50.3 million in healthcare services to VA beneficiaries at 19 locations across the country.

I would also like to highlight our partnership with the U.S. Army Special Operations Command, Joint Special Operations Medical Training Center (JSOMTC), to identify where we can collaborate to identify best practices and disseminate those to the entirety of the Total Force. JSOMTC provides a unique opportunity to capture lessons learned from the battlefield as special operations medical personnel provide support. The best practices they identify are instrumental in educating our medical personnel in the conventional force. To that end, we will continue efforts to bring the conventional and unconventional forces closer together and learn from each other. We anticipate this will motivate leaders at all levels to take a more active role in medical training and incorporate casualty-play into all other training.

Education and Training

Army Medicine continues to enjoy tremendous success in attracting and educating the best medical minds. The multi-discipline Health Professions Scholarship Program (HPSP) produces over 450 graduates annually—80 percent of active duty physicians, dentists, optometrists, veterinarians, and clinical psychologists. Currently, we have 1596 HPSP students in medical, dental, veterinary, optometry, nurse anesthetist, clinical psychology and psychiatric nurse schools. Additionally, the Uniformed Services University of the Health Sciences (USUHS) is a critical institution dedicated to developing and training clinicians in leadership, clinical, and combat casualty care as well as operational medicine. USUHS is a critical source of accessions for the Medical Corps and provides valuable post-graduate education for nurses, dentists, administrators and other public health professionals.

Our education programs are consistently recognized nationally. U.S. News and World Report's most recent survey of graduate schools ranked the U.S. Army Baylor Doctoral Program in Physical Therapy 5th in the country; the Inter-service Physician Assistant Program 11th; and the Army-Baylor University Graduate Program in Health Administration program 7th nationally. Furthermore, the U.S. Army Graduate Program in Anesthesia Nursing (USAGPAN) and the USUHS Daniel K. Inouye Graduate School of Nursing Doctor of Nursing Practice (DNP) Nurse Anesthesia program are regarded among the best in the Nation with graduates surpassing national averages on National Certification Exam first-time pass rates and overall scores.

The Army has partnered with the Uniformed Service University of the Health Sciences to develop and implement the Enlisted to Medical Degree Preparatory Program (EMDP2). This 24-month program enables enlisted Service members to complete the preparatory course work for entry into medical school while maintaining active duty status. Four of the five Soldiers in the 2014 cohort have already been offered positions in the military medical school. This program will recruit and grow talent from within the ranks, optimize force development and enhance medic retention.

HEALTHCARE DELIVERY

Army Medicine's fundamental tasks are promoting, improving, conserving, and restoring the behavioral and physical well-being of those entrusted to our care. From the battlefield to the garrison environment, we will support the Operational requirements of Combatant Commanders while also ensuring the delivery of the healthcare benefit to our beneficiaries. We must provide our beneficiaries with access to high quality care. We will continue to focus on expanding Telehealth, sustaining Warrior Care and Behavioral Health, and supporting women in the Army.

Access to Care Initiatives

Improving access to care remains a priority for Army Medicine. Specifically, our beneficiaries expect better primary care access. While we have improved access by 21 percent since 2014, we are still not fully meeting our beneficiaries' expectations. Therefore, I have directed actions to radically improve access to primary care in our MTFs. I have established a goal of creating 260,000 (4 percent) more primary care visits above the 6,100,000 million visits we provided in fiscal year 2015 and 119,000 (1.5 percent) more specialty care visits above the 7,900,000 we visits provided in fiscal year 2015.

We are standardizing processes across the Services to drive improvement with access. Last year, Army Medicine instituted a "First Call Resolution" policy to ensure all enrolled beneficiaries receive a direct care system appointment or network authorization on their first call. In addition, Army Medicine implemented a simplified appointing policy to reduce the types of primary care appointments from 12 to 5 with a focus on 24-hour acute appointments and future/follow-up appointments.

Army Medicine continues to expand our off-installation healthcare program by placing Community Based Medical Homes (CBMH) in communities surrounding our military installations closer to where our beneficiaries live and work. Today over 10 percent of our enrolled beneficiaries receive their primary care in a CBMH, many of which have extended hours and offer behavioral health and prescription refill services. We currently have 20 CBMHs supporting 13 installations. In fiscal year 2016, we will open three more CBMHs at three installations and in fiscal year 2017, we will open two more CBMHs and our first open access acute care clinic in San Antonio.

To further improve access to routine and specialty care, I am directing our MTFs to allow beneficiaries to book an appointment up to 6 months in advance. This will allow beneficiaries to book follow-up appointments before departing at the conclusion of their MTF visit, eliminating the need for them to call back to make an appointment after they have left our facilities. We will increase the number of available appointments by increasing the time our physicians are available to see patients and reducing the number of unfilled appointments. Additionally, we are also conducting a comprehensive assessment across our installations to determine where we must expand clinic hours or establish Urgent Care Clinics to take care of our people.

Army Medicine is also aggressively expanding the use of virtual tools, such as the Nurse Advice Line (NAL), TRICARE online, and Secure Messaging. In 2015, 55,000 beneficiaries were given self-care instructions through the NAL avoiding an unnecessary trip to the Emergency Department or Urgent Care Center. On January 15, 2016, Tricare Online (TOL) Pharmacy Refill went live. During the first week in February alone, 5,400 prescriptions were refilled via TOL allowing providers to focus more time on clinical care.

Army Medical Homes

The Army Medical Home (AMH) is a multidisciplinary approach to deliver comprehensive primary care. Care is delivered through an integrated healthcare team who proactively engages patients as partners in health. The Army Medical Home model encompasses all primary care delivery sites in the direct care system, including our MTF-based Medical Homes, Community Based Medical Homes (CBMH) and the Soldier Centered Medical Homes (SCMHs).

Primary Care is delivered through an integrated team of healthcare professionals that proactively engages patients as partners in health, with a stronger focus on prevention. Each patient will partner with a team of healthcare providers—physicians, nurses, behavioral health professionals, pharmacists, and others—to develop a comprehensive, personal healthcare plan. Currently, 134 AMHs across the United States, Europe, and the Pacific are caring for 1.3 million beneficiaries supported by a budget of \$74.5 million. All of the AMHs have been recognized by the National Committee for Quality Assurance (NCQA) representing the gold standard of patient-centered medical care.

The integration of Internal Behavioral Health Consultants (IBHC) and Behavioral Health Care Facilitators (BHCF) into Army Medical Homes has increased the availability of behavioral health services to all beneficiaries and reduced the stigma of behavioral health treatment. In addition, these Behavioral Health providers are an integral component of the treatment and prevention of behavioral health and behavioral medicine disorders in the beneficiary population. IBHCs address common behavioral health issues including depression and anxiety as well as assist with the treatment and prevention of many chronic medical conditions that can improve with lifestyle changes (diabetes, chronic pain, insomnia, obesity, nicotine use, etc.). Currently, 99 IBHCs and 58 BHCFs are integrated within the Army Medical Homes.

Telehealth (TH)

Army Medicine will continue to leverage technology to enhance access, readiness, quality, and safety for our beneficiaries. Army Telehealth (TH) currently provides clinical services across 18 time zones in over 30 countries and territories. Army Medicine executes approximately \$14 million per year on clinical uses of TH such as Tele-Behavioral Health (TBH). In fiscal year 2015, Army clinicians provided over 40K provider-patient encounters and provider-provider consultations in garrison and operational environments in over 30 specialties via TH. Army TH accounts for over 90 percent of all clinical TH encounters in the DOD.

Army Medicine invests in three TBH provider hubs with the majority of current spending for provider and staff salaries. These hubs are strategically located across the world to ensure 24/7 routine and emergency coverage. The April 2014 Fort Hood shooting is an example of emergency surge support. After the shooting, clinical support from Washington D.C., Honolulu, HI, and San Antonio, TX, was surged quickly to offer services to our Soldiers at Ft. Hood, TX. Other key programs include tele-consultations systems connecting deployed providers with specialty expertise in garrison; a mobile application system supporting warriors in transition; tele-mentoring programs in Pain Management; and a world class research portfolio innovating deployed TH systems.

Because of its tremendous benefits, Army Medicine is expanding TH to create Connected, Consistent Patient Experience (CCPE)—a 360° care continuum around patients using advanced TH modalities. The core elements of the CCPE include: (1) implement TH visits to patients' locations (such as their homes); (2) optimize provider-provider teleconsultations systems; (3) pilot remote health monitoring; (4) enhance the current TH Operating Company Model for standardized global operations; and (5) mature Army TH in operational environments.

As a glimpse of the future, Army Medicine is building a seamless, global teleconsultations platform. From battlefield to bedside, providers will be able to access specialty expertise from their colleagues—wherever in the world they are working. This enables patients to receive the best specialty expertise Army Medicine has to offer no matter where they are stationed.

Behavioral Health (BH)

Behavioral healthcare is one of the most important factors in the readiness of the Force. I anticipate continued growth in the demand for behavioral healthcare, including TBH, even as overseas contingency operations decrease. This is mainly due to the cumulative strain of over 14 years of war on Soldiers and families, the unique stressors of military service, and the Army's continued emphasis on Soldiers seeking help. In fiscal year 2016, the Army will resource an estimated \$300 million to support BH programs.

The Army is helping to decrease the stigma that others may feel in seeking behavioral healthcare. Programs such as Embedded Behavioral Health (EBH), Primary Care Behavioral Health and School Behavioral Health focus on reaching Soldiers and their families outside the MTF to improve access and reduce stigma.

Embedded Behavioral Health teams now support 141 operational units, including all Brigade Combat Teams. EBH provides multidisciplinary behavioral healthcare to Soldiers in close proximity to their units. EBH has correlated with an increase in Soldiers' use of outpatient behavioral healthcare and a reduction in the need for acute inpatient psychiatric care. This indicates that Soldiers are receiving care earlier in the course of their BH condition, before crises occur. We will extend the EBH model of care to support all operational units across the Force no later than October 2016. Special Forces units on Army installations have the priority of support.

The Army regularly screens Soldiers for BH conditions, including PTSD, at several points in the Force Generation cycle. The Army's screening program exceeds Department of Defense requirements and includes assessments annually and before and after every deployment. Also, screenings for BH conditions are performed at every primary care visit and BH professional have been placed in medical homes

to expedite consultation and treatment. To expand behavioral healthcare to Children and other Family Members, MEDCOM has established clinics within 51 schools and will expand to approximately 50 more to enhance access to and continuity of care.

We are proud of the implementation of the Behavioral Health Data Portal (BHDP) at every MTF. BHDP is a web-application that gathers standardized, automated clinical data from Soldiers receiving care in BH clinics. The program analyzes and presents data to BH providers to support their clinical decisions and treatment planning. It tracks patient outcomes, satisfaction, and risk factors via web application to improve program assessment and treatment efficacy. This innovative program has been identified by the Department of Defense as a best practice and is being implemented by the Navy and Air Force.

In March 2015, the Secretary of the Army (SA) directed the Assistant Secretary of the Army for Manpower and Reserve Affairs to conduct a comprehensive review of the Army Substance Abuse Program (ASAP). In October 2015, the Secretary approved ASA(M&RA)'s recommendation to realign clinical care under MEDCOM and integrate it with the Behavioral Health System of Care. The MEDCOM is developing a Substance Use Disorder Clinical Care capability that ensures holistic and integrated medical care for our Soldiers in accordance with published DOD policy, national standards, and best practices. The new \$40 million program will provide additional opportunities for Soldiers to receive care for substance use disorders from over 300 specially trained counselors.

Improving Quality and Safety

Since 1775, Army Medicine has reliably served our Nation, our Army and all those entrusted to our care. Army Medicine's commitment to patient safety has been, and remains, unwavering. In 2012, we began to incorporate elements of the "High Reliability Organization" (HRO) concept to continue to improve our practices in achieving the highest levels of patient safety. In 2015, we established the Deputy Chief of Staff for Quality and Safety to align all quality, patient safety, and organizational environmental and equipment safety elements within the same directorate. This alignment provides a synergistic environment to take advantage of analysis of problem areas and best practices across the full spectrum of quality and safety from within the command and in consultation with external experts and leaders.

Army Medicine is collaborating with The Joint Commission Center for Healthcare Transformation to pilot an assessment program that gauges the HRO maturity of Army MTFs. The Joint Commission team completed three assessments in 2015 and one in January 2016. The evaluations revealed several leading practices that include the routine conduct of Command team safety walk-rounds and the incorporation of HRO concepts into staff orientation. Opportunities for improvement identified were clearly linking Commander's priorities to quality and safety and advancing training in the use of Lean and Six Sigma for process improvement and reduction of variance across the facility. These assessments are valuable to our facilities. Therefore we plan on conducting four more MTF assessments per year over the next 5 years. As the assessments are completed and analyzed, the lessons learned will be shared across the entire MEDCOM and with our Sister Services.

Army Medicine is increasing its participation in the American College of Surgeons' National Surgical Quality Improvement Program (NSQIP) to reduce surgical complications, improve outcomes, and improve patient satisfaction. Currently, nine Army MTFs participate in NSQIP. By the end of 2016, all 22 Army MTFs with surgical services will participate in NSQIP. In 2015, Dwight D. Eisenhower Army Medical Center at Fort Gordon, GA was recognized by the American College of Surgeons as one of the Nation's Top 50 Hospitals for Surgical Quality out of the 528 hospitals in the U.S. that participate in NSQIP.

To drive further improvement, MEDCOM will design, develop and implement a Quality and Safety Center to more effectively use patient safety data, improve sharing of lessons learned across the MEDCOM, and increase transparency and availability of quality and safety information available to our leaders, staff, and beneficiaries. This center will be established in coordination with the Army Combat Readiness Center (CRC) and will leverage many of the successful practices incorporated by the CRC.

Wounded Warrior Care

Caring for wounded, ill, and injured Soldiers is a sacred obligation and will remain an enduring mission. Since 2007, nearly 70,000 wounded, ill, or injured Soldiers and their families received care from dedicated Warrior Care and Transition Program (WCTP) healthcare professionals with more than 30,000 (~44 percent) re-

turned to the force. This is a fully-funded program and the budget for fiscal year 2016 is approximately \$810 million.

The Warrior Transition Units (WTUs) provide mission command, medical management assistance, and transition assistance to Soldiers as they navigate the Army's medical treatment system. Within the WTUs, Soldiers receive personalized support from a Triad of Care that includes a nurse case manager, a squad leader, and the primary care manager. The Triad of Care is augmented by an interdisciplinary team of healthcare and transition specialists, to include social workers, physical therapists, occupational therapists, Army Wounded Warrior (AW2) Advocates, and many other professionals.

Community Care Units (CCUs) are within most WTUs and extend WTU capabilities into the community. Soldiers assigned to a CCU heal at their home with the support of their families and communities, with the support of the Triad of Care.

Since February 2014, Soldiers receiving care and oversight through the WCTP has decreased from approximately 7,000 to 2,659. Based on the declining population in WTUs, on August 27, 2015 the Army announced its plan to reduce the number of WTUs from 25 to 14 by August 2016.

The WTU locations scheduled for inactivation are Fort Gordon, GA; Fort Knox, KY; JB Langley-Eustis, VA; Fort Leonard Wood, MO; Fort Sill, OK; Fort Polk, LA; Fort Wainwright, AK; JB Elmendorf-Richardson, AK; Fort Meade, MD; and Naval Medical Center, San Diego, CA. As of 8 February 2016, there were a total of 171 Soldiers assigned to these WTUs.

The remaining 14 WTUs are aligned to major power projection platforms or those co-located with major Army medical activities and centers providing support to wounded, ill and injured Soldiers who require at least 6 months of rehabilitative care and complex medical management.

Throughout the consolidation effort, the WCTP will maintain a scalable and reversible posture to ensure uninterrupted care to our wounded, ill and injured population. The CCU mission of allowing Soldiers who do not require day-to-day care to recover closer to home and receive their care from the TRICARE network will not be affected by these consolidation efforts. The opportunity to recover closer to home will continue to be an option our Soldiers can exercise.

Civilian employees impacted by the consolidation will be reassigned based on skill match, the needs of the Army, and available employment opportunities. Every attempt will be made to allow Reserve Component cadre to serve out their tours. Transferring Soldiers and their families will be managed closely during this operation.

The Army will host the 2016 DOD Warrior Games in June 2016 at the U.S. Military Academy at West Point. The Warrior Games is the pinnacle event in the Army's adaptive reconditioning program for Soldiers recovering at the Army's Warrior Transition Units (WTUs). The Warrior Games feature 8 sporting events with approximately 200 athletes representing teams from each Service, SOCOM, and the British Armed Forces. As part of the Warrior Games, Soldiers can participate in a wide range of physical activities that support their physical and emotional well-being and contribute to a successful recovery, whether they are transitioning back to active duty or to civilian life.

Supporting Women in the Army

In January 2013, then Secretary of the Defense (SECDEF) Leon Panetta rescinded the 1994 Direct Ground Combat Definition and Assignment Rule. Following 3 years of careful and comprehensive study, the Army recommended all military occupational specialties (MOS) be open to women. The Army believes the best-qualified Soldier, regardless of gender, should be allowed to serve in any position. In December 2015, SECDEF Ashton Carter directed the full integration of women in the Armed Forces.

Since 2011, the Army has opened 9 military occupational specialties and approximately 95,000 positions in Combat Arms units down to company and platoon level. To achieve full gender integration, the Army will implement published, measurable, gender-neutral standards, then initiate gender-neutral training, followed by deliberate and methodical assignment of female leaders (officers, then enlisted) to Infantry and Armor units.

Army Medicine is supporting several tasks required for full gender integration. From October 2013 to June 2015, MEDCOM led the Soldier 2020 Injury Rates/Attrition Rates Working Group that conducted a thorough review of current literature, identified gaps in research and surveillance requirements to provide strategic-level recommendations to for policies and injury surveillance concerning mitigation of musculoskeletal injuries, gender-specific attrition, performance, behavioral health disorders and women's health issues.

Soldiers' injury rates have been consistently higher in female than male Soldiers in the basic training setting (2:1) for 30 years. The injury rates become closer in the Operational and Deployed Army (1.2–1.4:1). This is likely due to improved levels of physical fitness and regular physical training sessions once Soldiers are assigned to units. Some studies compared male and female trainees of similar fitness levels and showed injury rates were nearly the same in a Basic Combat Training (BCT) environment. This suggests there is a subset of females that can perform at high fitness levels and who are less likely to be injured. Currently there is no medical data or research on long-term injury and disability rates for combat arms MOSs/AOCs for men or women. Consequently there is no foundation for predicting long-term injury rates and disability in Soldiers.

Nutrition is key factor in performance. Blood iron levels declines in female service members during rigorous training, particularly in BCT and Advanced Individual Training (AIT). MEDCOM and TRADOC implemented a multivitamin with iron program for female Army trainees in January of fiscal year 2016 aimed at increasing performance and decreasing attrition rates. Other nutritional supplementation (primarily Calcium and Vitamin D) is being considered to address the incidence of stress fractures in Individual Entry Training (IET) Soldiers.

The U.S. Army Research Institute of Environmental Medicine (USARIEM) worked closely with the Training and Doctrine Command (TRADOC) to develop the Occupational Physical Assessment Test (OPAT); a new criterion-based physical testing procedure for entry into seven physically demanding Combat Arms MOSs.

The Women's Health Service Line (WHS) manages the unique needs of women by building sound fundamentals in perinatal and newborn services, as well as gender-based programs. The WHS was instrumental in the development of the MEDCOM Breastfeeding and Lactation Support Policy to ensure the MTFs incorporate the "Ten Steps to Successful Breastfeeding" concepts and ensure standardized breastfeeding education for all personnel who care for the mother and infant. This policy also supports the Army Directive 2015–43, Revised Breastfeeding and Lactation Support Policy, to ensure a designated place to express milk when employees/Soldiers return to work.

Sexual Assault/Sexual Harassment Prevention

The Army and Army Medicine continue to confront the complex challenges of sexual assault. As an integral participant in the Army's Sexual Harassment/Assault Response and Prevention (SHARP) program, Army Medicine continues to be at the forefront of the management, regulatory guidance, and oversight of care for all sexual assault victims. Our goal is to be a nationally recognized leader in providing patient-centered responses to all victims of sexual violence.

Regardless of evidence of physical injury, all patients presenting to a MTF with an allegation of sexual assault receive comprehensive and compassionate treatment. All examinations are completed in accordance with Department of Justice (DOJ) "National Protocol for the Sexual Assault Medical Forensic Examinations Adult/Adolescents" current recommendations and training guidelines. They are offered a sexual assault medical forensic examination (SAMFE) conducted by a trained and competent SAMFE professional at the MTF or at a local facility through a memorandum of agreement. USAMEDCOM also provides at least one Sexual Assault Nurse Examiner (SANE) at every Military Treatment Facility (MTF) with a 24/7 emergency room (ER).

Follow on care is coordinated and managed through the Sexual Assault Medical Management Team (SAMMT) at each MTF and the Sexual Assault Response Coordinators (SARCs), and Victim Advocates (VAs). The AMEDD SAMMT is designed to provide immediate and long-term patient care, from assessment of risk for pregnancy, options for emergency contraception, risk of sexually transmitted diseases/infections to include HIV prophylaxis, and necessary follow-up care and services. All patients, whether victims or suspects, are offered a referral to Behavioral Health at their first encounter and are encouraged to receive follow on psychological care. Long-term care plans are tailored to the meet the individual patient's medical and behavioral healthcare needs.

Victims will not be re-victimized through loss of privacy and dignity. Whether the victim elects restricted or unrestricted reporting, confidentiality of medical information will be maintained in accordance with Health Insurance Portability and Accountability Act (HIPAA) guidelines. Scope and standards of medical care are the same, regardless of restricted or unrestricted reporting.

The Office of the Surgeon General (OTSG) developed the first Sexual Assault Medical Forensic Examiner for Adult/Adolescent curriculum now universally taught by the AMEDDC&S. The SAMFE curriculum and training will be taught as a tri-service program effective fiscal year 2017 and meets or exceeds the Department of

Justice (DOJ) national protocols and training standards. This inter-service effort for training will standardize the delivery of care provided to sexual assault patients and suspects.

Womack Army Medical Center at Fort Bragg, NC could serve as a case-study in bringing the medical facility and community closer together in responding to SHARP incidents. Womack has established a monthly training session that includes a forensics community of interest comprised of the MTF, installation, community, law enforcement, and prosecutors. This session allows personnel to review cases, identify best practices, and work together to address SHARP requirements. Womack is also currently planning to conduct a 2-day recertification session for SAFME personnel as well as a yearly summit for the local forensics community. The efforts at Womack are indicative of an engaged, proactive community of experts.

FORCE DEVELOPMENT

The Joint Concept for Health Services (JCHS) describes how the future Joint Force will provide Globally Integrated Health Services in support of Globally Integrated Operations. It describes a future operating environment that is more unpredictable, complex, and potentially more dangerous than today. The JCHS envisions a shift from the relatively static operations in Iraq and Afghanistan to sustained engagement and force projection/crisis response operations.

In future operations, Army Medicine capabilities must be able to rapidly aggregate and disaggregate in support of forces that are dispersed over long distances. Army Medicine capabilities must be sufficiently modular, interoperable, agile, tailorable, and networked to enable the Joint Force Commander to quickly and efficiently combine and synchronize capabilities. Additionally, we must be prepared to operate in austere, expeditionary environments without the benefit of a robust theater medical infrastructure. We must continue to develop agile and adaptive leaders who are able to effectively operate in complex environments.

The Army Medical Department Center and School (AMEDDC&S)/Health Readiness Center of Excellence (HRCOE) is leading our efforts to develop agile and adaptive leaders while evaluating our training, doctrine, and capabilities to ensure we are postured to support the Army in future operations.

Published in August 2015, The Early Entry Medical Capabilities (EEMC) Concept of Operations (CONOP) is the product of analysis conducted by the AMEDDC&S to identify medical capabilities required to support future Joint and Army entry operations. The CONOP identifies six major capability areas: Battlefield Trauma Management, Trauma System, Medical Evacuation and En-Route Critical Care, Medical Training and Preparedness, Medical Information Management, and Mobility, Protection and Sustainment. AMEDDC&S is conducting ongoing studies in these areas to improve medical capabilities in support of early entry operations in the future.

To provide more realistic combat casualty care training at the squad level, AMEDDC&S developed the Exportable Tactical Combat Casualty Care training. This training provides units with 3 days of progressive training beginning with classroom instruction, progressing to practice using virtual environments, and culminating in application using advanced combat casualty mannequins that breathe, bleed and are visually modeled realistically portray severe trauma. Also, to enhance training we are looking at bringing the Ranger First Responder model of medical care to the greater Army.

In 2012, the AMEDDC&S began the Critical Care Flight Paramedic (CCFP) Training Program to provide flight medics with additional paramedic, critical care training, and civilian certifications. Since 2012, 350 critical care paramedics from all components have graduated from this program. In 2015, the AMEDDC&S opened the CCFP Transport Medical Training Laboratory to enhance training for critical care paramedics. This immersive training environment utilizes multiple state-of-the-art Human Patient Simulators, a static airframe medical suite, and a configurable room that supports simulated combat casualty care from the point of injury through medical evacuation, forward surgical hospital, and the combat support hospital.

AMEDDC&S is developing the science of Prolonged Field Care (PFC) to support a future operating environment where historic evacuation planning timelines may not be achievable. It is evaluating data from the Department of Defense Trauma Registry (DODTR), Joint Trauma System (JTS), and Armed Forces Medical Examiner (AFME) and conducting a review of all Clinical Practice Guidelines to determine what should or could be accomplished in the field. It is also developing the criteria for the enhanced medic of the future including Prolonged Field Care (PFC) principles, telemedicine capabilities and remote primary care to be incorporated into future training programs of instruction.

AMEDDC&S developed the Forward Resuscitative and Surgical Team (FRST) based on lessons learned from Iraq and Afghanistan. The design was approved in 2015 with the medical equipment set approved in 2016. The FRST provides two surgical elements and two resuscitative elements that enable it to conduct split based operations. It is rapidly deployable and equipped to provide continuous operations in conjunction with the supporting medical company for up to 72 hours. It allows for urgent initial resuscitation and surgery for otherwise non-transportable patients.

Demonstrating institutional agility, the AMEDDC&S is currently organizing, training, equipping and deploying a regionally aligned medical team capable of providing immediate forward resuscitative field care, prolonged field care and enroute critical care in support of enduring AFRICOM operations. This initiative enhances the AMEDD training strategy development with San Antonio Military Medical Center (SAMMC), Walter Reid Army Institute of Research (WRAIR)/Global Emerging Infections Surveillance (GEIS), U.S. Army School of Aviation Medicine and MEDCOM education and training capabilities integrated into the pre-deployment CONOPs and mission analysis.

Medical Research

The U.S. Army Medical Research and Materiel Command (USAMRMC) is the Army's medical materiel developer, with responsibility for medical research, development, and acquisition (RDA), as well as medical logistics management. The USAMRMC manages the full life-cycle of medical technologies and materiel, from discovery through development, procurement, maintenance and disposal to support the readiness and optimal health of our armed forces; to provide our healthcare providers with technologies to protect Soldiers from disease and injury and to provide optimal care for casualties, particularly on the battlefield. USAMRMC conducts or manages groundbreaking research in combat casualty care (CCC); Traumatic Brain Injury (TBI); Psychological Health; and infectious diseases to protect against global disease threats as well as post-injury research in rehabilitative and regenerative medicine to improve the care and quality of life of severely injured Service Members. It is important that funding and planning decisions made today must preserve the Army's core medical research competencies through continued medical research investments. These investments sustain critical capabilities that ensure strategic flexibility to avoid technological surprise as we respond to future operational threats.

The USAMRMC has spearheaded many major advances in trauma research and development. A recent success is a first-of-its-kind endovascular (inside the blood vessel) device (ER-REBOATM) for hemorrhage control and resuscitation that recently obtain a Food and Drug Administration clearance. The ER-REBOATM catheter recently had its first known use by a military surgeon working at a civilian trauma center, where a gun-shot victim was resuscitated after nearly bleeding to death. In an effort to conserve and maximize the return on trauma research investments, the USAMRMC has awarded the first-of-its-kind National Trauma Research Database contract to develop a common repository of data stemming from DOD-funded trauma research. Advances stemming from this research program and lessons learned from operational trauma care in Iraq and Afghanistan are transforming care of civilians injured as a result of violence, accidents and natural disasters.

The U.S. Army Medical Research and Materiel Command's TBI research portfolio includes projects not only related to TBI, but also to brain health. With Congress' investment, the DOD funded the development of an FDA approved TBI assessment technology, the "Ahead 200." This device uses a disposable headset and commercial smartphone technology as an adjunct to standard clinical practice to aid in the evaluation of patients who present as having a mild traumatic brain injury within 24 hours of injury, but may have a severe or life-threatening TBI and are being considered for a head Computed Tomography (CT).

Historically, infectious diseases are responsible for more U.S. casualties than enemy fire. Continued progress to address these emerging threats requires sustained commitment to funding; developing personnel with expertise in infectious diseases; and maintaining stateside and overseas laboratory infrastructure and overseas field sites for clinical studies and response to emerging disease threats. Our research efforts in this area are leading to progress in the development of vaccines, treatment and preventive drugs, human diagnostics, and vector control tools. Two malaria treatment drugs are expected to be licensed in 2018; two malaria vaccine candidates are expected to be transitioned to advanced development (AD) in fiscal year 2018 (safety and effectiveness clinical trials); and one malaria prophylaxis drug is expected to transition to AD in fiscal year 2019. Finally, we are conducting early

clinical trials to evaluate the safety and immunogenicity of vaccines targeting Hemorrhagic Fever with Renal Syndrome and organisms causing bacterial diarrhea.

The coordinated and swift response to the Ebola virus outbreak demonstrated the value of continued investment in infectious disease research and development capabilities, to include critical subject matter expertise and overseas laboratory infrastructure. The Ebola Virus Disease (EVD) research and development (R&D) efforts, executed at the USAMRMC and funded by the Chemical and Biological Defense Program (CBDP) and industry partners, contributed to the development of investigational EVD therapeutics, vaccines and developed the first Emergency Use Authorization (EUA) Ebola Virus Diagnostic Assay. The portfolio of potential treatments for Ebola under development includes biologics, engineered antivirals, and products to boost the host's own immune system.

The latest Public Health concern that has Global Health implications is the Zika virus. This mosquito-borne Flavivirus is currently progressing through the Americas; local transmission has been reported in over 30 countries and territories in the region. There is no vaccine or effective therapeutic yet for disease prevention or treatment. There is a need for better diagnostic assays to quickly and clearly differentiate between similar viruses and to detect past Zika infection. The USAMRMC has resident Subject Matter Experts (SME) with years of R&D experience in the study of the Flavivirus family of infectious diseases and the Aedes mosquito. Our SMEs are currently participating as Army and DOD representatives in several interagency and international meetings and committees as they communicate and coordinate efforts to address the current concerns with the Zika virus outbreak.

Further, the USAMRMC is continuing bio-surveillance and virus characterization activities through the overseas and domestic laboratories. USAMRMC laboratories have Zika virus isolates and are in the process of obtaining more geographically distinct isolates to support current biosurveillance and potentially expanded R&D activities. The Centers for Disease Control (CDC) lead the efforts to submit an Emergency Use Authorization (EUA) to the Food and Drug Administration (FDA). On February 26, 2016, the FDA approved an Emergency Use Authorization (EUA) for CDC Zika Immunoglobulin M (IgM) Antibody Capture Enzyme-Linked Immunosorbent Assay ("Zika MAC-ELISA"). USAMRMC is now working in support of the National Laboratory Response Network.

Streamlining Structure

Army Medicine continues to evaluate its headquarters structure to ensure it is properly sized and aligned to support the Army. In Fall 2013, the AMEDD Futures Task Force was established to review the MEDCOM headquarters structure and provide recommendations on how to best balance and align it. The Task Force recommended a flattened and more integrated structure that is geographically aligned to support the Army. The Secretary of the Army approved this reorganization on April 27, 2015 and MEDCOM initiated its transformation on July 8, 2015.

By the end of the 2 year implementation in fiscal year 2017, the MEDCOM will transform from 20 to 14 subordinate Command HQs. This 30 percent reduction of headquarters will reduce our administrative overhead structure to less than 4.2 percent of MEDCOM's total requirements and authorizations. We have completed transformation of fifteen functional regional command HQs to four multi-disciplinary Regional Health Commands (RHCs) by merging regional headquarters for public health and dental. RHCs are a single point of accountability for health readiness to regionally aligned forces around the globe. Within the Continental United States, RHC-Atlantic and RHC-Central are aligned with XVIII Airborne Corps and III Corps installations respectively. Overseas, RHC-Pacific aligned with U.S. Army Pacific to support the Army's strategic Rebalance to the Pacific. RHC-Europe is aligned with U.S. Army Europe and U.S. Army Africa. Finally, we transitioned the headquarters for the Public Health Command, Warrior Transition Command, and Dental Command to elevate and integrate them as functional key staff at the MEDCOM headquarters.

Simultaneously, a work group was established to review the executive leadership within our MTFs. The results of this study led to an executive leadership model borrowed from the U.S. Navy, the AMEDD Health Executive Leadership Organization Structure (HELOS), which was approved for implementation on 12 Jun 15. The model standardizes the leadership structure for medical centers, large hospitals, small hospitals, and clinics. It provides increased leadership opportunities at the deputy level and enhances oversight of quality, safety, the patient experience, staff development, and productivity within all MTFs. The new leadership positions will provide additional opportunities to groom future hospital and medical center commanders. The endstate will be more experienced leaders who are more accountable.

CARING OF OUR BENEFICIARIES

TRICARE is an excellent benefit tailored to support our beneficiaries and their unique needs and situations while also supporting readiness by providing reinforcing capacity for our medical treatment facilities. Most agree that change is necessary to ensure the long-term sustainability of the program and to improve performance. However, reform must preserve the All-Volunteer Force and honor the sacrifices of our Soldiers and their Families. I support the TRICARE reforms proposed in the fiscal year 2017 President's Budget.

Reforms should inspire beneficiaries to return to our direct care system and military run medical facilities. I believe the best place for them to receive care is in our military treatment facilities where we understand their needs, can manage and document their care, ensure quality, and can ensure their readiness.

Reforms should incentivize health and healthy lifestyles. This is key to long-term cost control.

We must ensure our beneficiaries have access to high quality, safe healthcare in our MTFs and in the TRICARE network. To this end, we must increase transparency and exchange of data between both healthcare systems.

Reforms must not increase the financial burden on Active Duty Soldiers or Active Duty Family Members and minimize impact to our retired population. Any increased financial burden on retirees must be modest and not inhibit them seeking necessary medical care in our facilities.

CONCLUSION

Army Medicine is the Nation's premier and most versatile medical organization meeting the ever-changing challenges of today. No other healthcare organization in the world has the scale and scope of Army Medicine. No other healthcare organization in the world has the diversity, depth, and breadth of Army Medicine. No other healthcare organization in the world has the ability to support the continuum of care from the battlefield to garrison and in any environment imaginable. No other healthcare organization in the world provides the unique and integrated capabilities that Army Medicine delivers on a daily basis, around the world, in support of our Nation and our Army. As the military healthcare reform discussion continues we must remain focused on maintaining readiness while continuing to improve the health of all those entrusted to our care.

While our system has proven very successful over the last 14 years of supporting the Warfighter, we need to continue to improve and evolve it to meet the changing needs of our Nation's Army. No other health organization is required to provide, nor is capable of providing, the full spectrum of care from point of injury or illness on a battlefield through rehabilitative care while continuing to maintain high quality care in garrison environments for its beneficiaries.

I am committed to improving readiness, enhancing the healthcare delivered to our beneficiaries, evolving to support the Army in future conflicts, and to taking care of our Soldiers, civilians, and their Families.

We remain fully committed to work with Congress, DOD, and all those entrusted to our care to improve our system.

I want to thank my partners in the DOD, the VA, my colleagues here on the panel and the Congress for your continued support.

Senator COCHRAN. We will now hear from Vice Admiral Faison, Surgeon General of the Navy.

STATEMENT OF VICE ADMIRAL C. FORREST FAISON III, SURGEON GENERAL, DEPARTMENT OF THE NAVY

Admiral FAISON. Thank you, Sir.

Chairman Cochran, Vice Chairman Durbin, distinguished members of the Committee, it's my honor to represent the men and women of Navy medicine, 63 thousand dedicated professionals, who every day, honor the trust placed in our hands in caring for those who have sacrificed to defend our freedom.

I can report to you today that your Navy medicine team is operating forward and supporting the Navy/Marine Corps mandate to be where it matters, when it matters and ready to respond to any crisis. We are grateful for your strong and unwavering support of our servicemembers and their families.

I would like to highlight a few important points.

Military readiness is our mission. Navy medicine protects, promotes, and restores the health of sailors and marines around the world, at home or deployed, and in all warfare domains.

In an increasingly complex world, as our Navy and Marine Corps stands watch and stands ready to defend our national interests around the globe, Navy medicine stands there as well to protect and to care for them. As an agile, rapidly deployable, medical force, this is what sets us apart from civilian healthcare.

No civilian health plan in the world routinely leaves their families and homes and go in harm's way willingly to care for those in need.

No health plan in the world daily puts their lives on the line in battle to defend and care for their patients.

No healthcare plan in the world experiences the staffing deployments and turnover we routinely experience and still delivers world class healthcare.

The proof is on the battlefield: the highest combat survival in recorded history!

Wounded warriors are alive today who, in any previous conflict would have died of their injuries. Every wounded warrior is a testament to the effectiveness of the military health system because every one of them, from point of injury on the battlefield to advanced treatment in our medical centers, were cared for, completely, by men and women who got their training, experience, and preparation in our military treatment facilities. Those facilities are the foundation of battlefield survival and in my opinion as a former commander of the deployed combat expeditionary medical facility, a robust military health system is critical to future battlefield survival.

Unparalleled combat survival in the longest conflict in our Nation's history is proof that a robust military health system that is also our training and research platforms for our battlefield providers from corpsman to physician is essential to combat survival.

These three facts are not in dispute.

We have the highest combat survival in recorded history. Many wounded warriors are alive today who would otherwise, had died of their wounds in any previous conflict. Every wounded warrior received their care from injury on the battlefield to recovery in our medical centers, completely and exclusively by men and women who receive their training, clinical experience and preparation in one of our military treatment facilities.

I should add that investments in medical education and training along with medical research and development are critical to meeting both current and future mission requirements. Our training programs are among the best in the world while our global R and D is helping to keep our personnel safe today while countering the threats of tomorrow. This is the system that works and has proven itself time and again in the thousands of men and women alive today and the overall health of our military force and their families.

It is also a system that is not perfect. The services are working hard to improve access, care continuity, convenience, and satisfaction that we provide in peacetime.

We have made important strides in each of these areas while concurrently increasing enrollment, network recapture, staffing realignments, and other efforts to ensure we provide the clinical experience our staff needs to preserve skills, competencies, and ultimate battlefield survival in the next conflict.

More needs to be done and none of us underestimates the magnitude of the effort required to improve our peacetime healthcare services. We are committed to continuing the necessary reforms to improve the patients experience, and most importantly, their health. But, we must do so without putting at risk the very system which has yielded such unprecedented survival.

We will need your help in this effort and for your tireless support, I thank you for helping us to ensure that those sailors and marines, who stand the watch in the future, will have the same or better battlefield survival than today's wounded warriors have had.

In our hands is a sacred trust to do all in our power to return home safely to their families, America's sons and daughters who have sacrificed to defend our freedom.

I thank you for helping us to honor that trust.

[The statement follows:]

PREPARED STATEMENT OF VICE ADMIRAL C. FORREST FAISON III

Chairman Cochran, Vice Chairman Durbin, distinguished Members of the Subcommittee, it is my honor to represent the men and women of Navy Medicine—a team of 63,000 dedicated professionals, delivering world-class care, anytime, anywhere. We are grateful for your steadfast support and I can report to you that Navy Medicine is mission-ready and unified in our commitment to serve those entrusted to our care.

STRATEGIC ALIGNMENT

Readiness, the core mission of the Navy Medicine, is inextricably linked with those we serve, the United States Navy and United States Marine Corps. We are fully engaged with supporting our maritime strategy as articulated by the Secretary of the Navy, Chief of Naval Operations and Commandant of the Marine Corps. Our leaders expect us to keep their Sailors and Marines healthy, ready to deploy, to deploy with them, as well as to protect their health, and when necessary, restore their health. Most importantly, we support the Navy-Marine Corps mandate to be where it matters, when it matters and ready to respond in time of crisis.

Since becoming the Navy Surgeon General in December 2015, I have reaffirmed that our most important strategic imperative remains readiness: Keeping Sailors, Marines and their families healthy and ensuring that the Navy Medicine team is a ready medical force. The obligation to keep our Nation's service members and their families healthy is both a privilege and sacred trust earned over years by providing care at sea, on the battlefield and around the world in our medical centers, hospitals and clinics. Today's Sailors and Marines are the most highly trained, specialized, and educated in our history. Because of this, every one of them is critical to the mission and the need to keep them and their families healthy has never been greater.

We must deliver ready capabilities to the operational commanders, maintain the clinical currency for our medical forces, and effectively integrate technology to improve the health and readiness of Sailors and Marines. We recognize that our collective efforts are strengthened given every uniformed member of Navy Medicine has a contingency assignment to an operational unit and, as such, has a distinct and important role in supporting our mission.

Navy Medicine, in conjunction with the Army and Air Force, is leveraging joint opportunities with the Defense Health Agency (DHA). The DHA provides support to the Services in the form of shared services including: facilities planning; medical logistics; health information technology; health plan; budget and resource management; contracting; pharmacy; research, development and acquisition; medical education and training; and, public health. Their efforts in delivering shared services support and common business practices across the Military Health System (MHS) are focused on efficiencies and savings. The work is important to the Services' mis-

sions as well as the Defense Health Program as we work to ensure optimal resource efficiency in our mission.

We are grateful to the Committee for supporting continued resource requirements and placing trust in us to provide outstanding care to our beneficiaries. Navy Medicine is committed to sound fiscal stewardship at all levels of our enterprise and this includes sustaining our active audit readiness posture to validate we are being good stewards of these resources. The President's fiscal year 2017 budget adequately funds Navy Medicine to meet its medical mission for the Navy and Marine Corps. The President's budget for fiscal year 2017 also contains key TRICARE proposals which are needed to modernize the Department's healthcare program. I support these reform proposals as they will continue to sustain military readiness, improve beneficiary choice, and improve access as well as help realize cost savings. In addition, these initiatives will simplify TRICARE while encouraging the use of military treatment facilities (MTFs)—vital for medical readiness. These proposals will strengthen the Military Health System (MHS) and support sustainable healthcare benefits for all our beneficiaries.

The proposed legislative changes must be supplemented by important work within the MHS to create opportunities for even greater exceptional care to our patients. We must aggressively assess the transformative opportunities presented in today's environment to provide value-based care and employ technologies that make good clinical and mission sense. These efforts must include improving standardization of clinical, non-clinical and business processes while reducing variation. Within Navy Medicine, we are committed to continuous performance improvement with keen focus on access, quality and safety throughout our enterprise. Our collective efforts in measuring key performance improvement metrics, as well as our strategic collaborative partnerships with leading civilian organizations such as the Joint Commission and the Institute for Healthcare Improvement (IHI), are necessary as we establish Navy Medicine and the MHS as a high reliability organization (HRO).

OUR MISSION IS READINESS

Navy Medicine is an agile integrated, rapidly deployable health system. We protect and restore the health of Sailors and Marines around the world, ashore and afloat, in all warfare domains. Our personnel, including those organic to the operational forces and those working in our MTFs, must be capable of providing life-saving and health sustaining specialized capabilities to the warfighters in all domains and locations. The spectrum is wide, but the mission is straightforward: Provide force health protection anytime, anywhere. This is what sets us apart from civilian medicine.

We must recognize that the direct care system—our CONUS military treatment facilities (MTFs)—are our most important readiness training platforms. These facilities are critical to sustaining the vital skills and clinical competencies for our medical personnel who are saving lives on the battlefield. As a former commander of a deployed expeditionary combat medical facility, I cannot overstate the importance of robust clinical experience to having a fully trained and ready medical force capable of sustaining unprecedented survival on the battlefield. Fifteen years of combat with the highest combat survival in recorded history by medical personnel who got their training and preparation in these MTFs proves their value and critical role in combat survival. From physicians to nurses to corpsmen, our personnel want to deliver healthcare and need that strong clinical experience to sustain and enhance their skills in preparation for the next deployment. Our CONUS MTFs provide important surge capabilities, while our OCONUS facilities support our forces operating forward much like our expeditionary medical capabilities onboard ships.

As a ready medical force, we have a responsibility to ensure we are as ready for the next mission or conflict. The improved battlefield survival rates we realized over the last 15 years of war were the result of highly trained, properly equipped medical personnel from our MTFs who had the capabilities to rapidly implement combat casualty care best practices and lessons learned. These outcomes were achieved and then sustained by the collective hard work of the men and women of military medicine and the critical support provided to us by Congress. Our challenge remains holding these important gains moving forward.

We are leaning forward to improve the effectiveness and efficiency of our CONUS MTFs to provide that robust clinical experience to preserve skills and competencies by moving more workload in-house, growing our patient enrollment, rebalancing staff and investing in our graduate training programs. This also has a side benefit of reducing overall private sector care expenditures. An example of our efforts is the Navy CONUS Hospital Optimization Plan which we executed over the last 2 years to better sustain the operational readiness skills of our providers and optimize pri-

mary and specialty care. These efforts resulted in changes in services at nine MTFs and realigned our graduate medical education (GME) pipeline.

I believe an erosion of our direct care system would have significant adverse consequences on our ability to sustain medical force skills and competencies. This will have direct negative impact on our medical readiness capabilities and also potentially degrade our ability to recruit and retain our medical professionals who seek a professionally rewarding clinical experience. We also need to recognize that comprehensive beneficiary care in our MTFs is directly linked to skills sustainment of our medical force and, from that, survival on the battlefield. Our beneficiaries, by agreeing to get their care in our MTFs, are helping to ensure we save lives on the battlefield in the next conflict.

Navy Medicine continues to sustain unparalleled levels of mission success, competency and professionalism while providing world-class trauma care and expeditionary force health protection to U.S. and coalition forces in southern Afghanistan in support of Operations RESOLUTE SUPPORT and FREEDOM'S SENTINEL. As troop levels in Afghanistan remain constant, the forward deployed NATO Role 3 Multinational Medical Unit continues to provide high-level evaluation, resuscitation, surgical intervention, post-operative care, physical therapy, behavioral health, and patient movement services expected of Navy Medicine by our combatant commanders. The Role 3 maintains 12 trauma bays, four operating rooms, six intensive care beds and six intermediate care beds, with a staff of 87 personnel.

Global Health Engagement (GHE) is an important component of sustaining readiness since Navy Medicine is uniquely positioned to support Humanitarian Assistance/Disaster Relief (HA/DR) missions. Our hospital ships, USNS MERCY (T-AH 19) and USNS COMFORT (T-AH 20) are capable of getting underway quickly to support HA/DR efforts here and around the world as evidenced by relief efforts along the Gulf Coast following Hurricane Katrina, Indonesia in the aftermath of the tsunami and in Haiti following the devastating earthquake. We provide the full range of medical skills including primary and trauma care, public health, and disease management.

Our participation in humanitarian civic action (HCA) missions and military-to-military exercises provides unmatched training opportunities for our personnel and builds important joint, interagency and international relationships. These missions support training for crisis conditions and focus on enhancing clinical expertise and preventive medicine and improving disaster preparedness in collaboration with host nation, partner nation, non-governmental organizations (NGOs) and interagency partners. In fiscal year 2015, both MERCY and COMFORT were underway and participated in HCAs. MERCY was part of Pacific Partnership 2015, the largest HCA in the Pacific Command area of responsibility. The medical team provided medical and dental care ashore to patients in seven countries in the Pacific Rim/East Asia and performed nearly 700 surgeries aboard MERCY. COMFORT, operating as part of Continuing Promise 2015 in South America/Caribbean, delivered care in 11 countries and conducted over 1,200 surgeries onboard.

Our MTFs are also filling a vital role in preparing Navy Medicine to respond to both naturally occurring public health emergencies. Our larger MTFs regularly rehearse their pandemic response plans, and response when needed, to include the dispensing of vital pharmaceutical countermeasures and antivirals from both the Navy stockpile and state level Strategic National Stockpile supplies to DOD installation populations at Closed Points of Dispensing (CPODs).

Our force health protection mission is also evident in response to the Zika virus. In support of these efforts, our Navy Liaison Officers assigned to the Centers for Disease Control and Prevention (CDC), United States Agency for International Development (USAID), Department of Health and Human Services (HHS) and the World Health Organization (WHO) are actively engaged to ensure DOD is coordinated with the whole of United States Government (USG) response. We are continuously educating our Sailors, Marines and family members along with Fleet and USMC commanders about the Zika virus and the importance of prevention and taking appropriate precautions. Our providers are following CDC clinical guidance and collaborating with public health partners to protect our patients and staff. The Navy Marine Corps Public Health Center (NMCPHC) continues to provide updated guidance to Navy and USMC installation commanders regarding the most effective methods to reduce virus-spreading mosquito populations. In addition, Navy Medicine now has in-house testing capabilities for Zika virus infection in humans at the Naval Medical Research Command (NMRC) and at our laboratory in Lima, Peru, the Naval Medical Research Unit Six.

OPTIMIZING CARE TO IMPACT HEALTH AND READINESS

There is a transformation underway in healthcare. We are witnessing rapid changes in clinical care brought about by innovations in disease diagnosis and treatment. Advances in areas such as digital imaging, genetics, precision medicine, pharmaceuticals and therapeutics are all having significant impact on the delivery and cost of patient care.

In addition, we know that our patients want convenience and, where possible, use of virtual technology to support their healthcare needs. This is the impact of the millennials on healthcare and it is not unique to the military although we are more impacted by it because of our patient demographics: Based on our most recent available data, 72 percent of enlisted Sailors and 85 percent of enlisted Marines are 30 years old or younger. They and their families are very comfortable with digital technology and expect to incorporate their smart phones and tablets into their daily healthcare transactions whenever possible. Moving forward, traditional portals of care within our direct care system and the supporting TRICARE networks must be complemented with innovative and interconnected technological approaches to provide virtual outreach and care, including handheld device applications, telehealth and other venues of virtual care.

Ready access to safe, high quality care is foundational to our primary care delivery model. Within Navy Medicine, our focus areas include promoting additional options for accessing care, streamlined by standardized appointing processes. Nearly all of Navy Medicine's 790,000 MTF enrollees are receiving care in a National Committee for Quality Assurance (NCQA)-accredited Medical Home Port (MHP). These patients have seen an improvement in same-day healthcare access with their MHP team, augmented by virtual access via e-mail communications with providers and access to a 24/7 Nurse Advise Line (NAL). We have increased our same-day appointments by 20 percent and 91 percent of our patients indicated satisfaction with getting care when needed. There has been a 40 percent increase in the number of beneficiaries utilizing secure messaging over last year and survey respondents indicated 97 percent overall satisfaction with this capability. As a result of this enhanced access, providing nearly five million outpatient visits each year, readiness, continuity, health outcomes and patient satisfaction have improved while unnecessary emergency room usage has decreased. We are also expanding our Marine-Centered Medical Homes (MCMHs) and Fleet-Centered Medical Homes (FCMHs) to enhance access and care for our operational forces. We currently have 23 MCMHs and five FCMHs with efforts under way to expand to additional locations in 2016.

We have an unwavering commitment to patient safety and eliminating iatrogenic harm and while fostering an ethos of trust, reporting and improvement. Our MTF commanding officers know my expectations: Navy Medicine leaders must be directly engaged in creating and sustaining a culture of patient safety at their commands, including conducting weekly leadership rounds, providing formal recognition for speaking up and promoting the ongoing use of TeamSTEPPSTM (Team Strategies and Tools to Enhance Performance and Patient Safety). We continue to see progress in our patient safety efforts and I am pleased that three of our MTFs were recognized by DOD Patient Safety Awards in 2015.

Navy Medicine supports Operational Stress Control (OSC) initiatives and post-traumatic stress disorder (PTSD) prevention and education efforts for both medical and line-led educational and assessment programs. A comprehensive and inclusive approach to building and preserving resilience is fundamental to developing the capacity to cope with challenges and stressors associated with military service. We continue to provide timely and evidenced-based mental healthcare for our Sailors, Marines and their families. Our psychological health programs support the prevention, diagnosis, mitigation, treatment and rehabilitation of the full spectrum of mental health conditions utilizing the most current DOD and the Department of Veterans Affairs (VA) Clinical Practice Guidelines.

Improving access and reducing stigma associated with reaching out for help remain important priorities. The Behavioral Health Integration Program (BHIP) integrates mental health providers into our primary care settings to identify and manage issues not requiring specialty care as well as facilitate referrals (and smooth handoffs) for more serious conditions. Within operational settings, we continue to embed mental health providers to provide support where and when they are most needed. The Operational Stress Control and Readiness (OSCAR) program provides mental health expertise directly in USMC units. Similar programs exist on Navy's large afloat platforms as well as Navy and Marine Special Operations units. Embedded mental health providers reduce stigma, increase access to care and help detect operational stress reactions and injuries early before they lead to decreased mission capabilities. These embedded mental health providers are making a real difference

where and when it matters and we are working with Fleet Forces Command and USMC to expand this important capability.

Navy Medicine remains committed to supporting the psychological health needs of Navy and Marine Corps reservists and their families. The Navy and Marine Corps Reserve Psychological Health Outreach Program (P-HOP) provided 11,973 outreach contacts to demobilized service members and provided behavioral health screenings to 10,700 reservists in fiscal year 2015. The program also provided 440 visits to reserve units and made 702 presentations to 40,648 reservists, family members and commands. Over 1,700 service members and family members participated in 15 Returning Warrior Workshops (RWWs) in fiscal year 2015. RWWs assist demobilized service members and families in identifying issues that often arise during post-deployment reintegration.

Navy Medicine has made significant progress in recruiting mental health providers to meet the demand for services. At the end of fiscal year 2015, active component (AC) social worker and mental health nurse practitioner communities are fully manned; while the percentages for psychiatrists and clinical psychologists are 94 and 89, respectively.

Suicide is a tragedy that destroys families and impacts our commands. The goal is to reduce suicide risk by equipping Sailors with information, training, tools, practices and policies to be psychologically healthy, resilient and mission ready. We support the Navy's Suicide Prevention Program on multiple fronts, including the in-depth review of Navy suicides. These reviews are helping to identify those who may be at increased risk of suicide and emphasize the importance of engaged and proactive leadership, particularly when individuals are undergoing personal or professional transitions. We are also working with the Defense Suicide Prevention Office (DSPO) to advance prevention efforts. Throughout Navy Medicine, we recognize the importance of supporting our shipmates and ensuring we focus on every Sailor, every day.

We are continuing our strong focus on management of traumatic brain injuries (TBI) throughout Navy Medicine including standardizing a system of care in our MTFs that includes prevention, education, treatment and tracking of these injuries. These efforts help ensure that care provided at our MTFs is consistent, incorporates best clinical practices and leverages advances realized over the last several years in the treatment of TBI in the deployed setting. We know that 84 percent of TBIs in the military occur in non-deployed settings, highlighting the need for the care and treatment of these injuries in our facilities. In fiscal year 2015, we executed \$10.6 million in DHP funding for the care and management of TBI.

Our Intrepid Spirit Concussion Recovery Center is operational onboard Marine Corps Base, Camp Lejeune. Intrepid Spirit is part of the consortium with the National Intrepid Center of Excellence (NICoE) and provides advanced evaluation and care for service members with acute and persistent clinical symptoms following a TBI. The center averages 50 monthly referrals with 12–18 new service members in the program per week. Approximately 90 percent of patients are ready to return to full duty after treatment. Another Spirit Center is planned for Naval Hospital Camp Pendleton.

I am pleased with the continued progress of our Navy Medicine's Reintegrate, Educate and Advance Combatants in Healthcare (REACH) Program in helping our recovering service members. REACH provides an opportunity for our wounded warriors to learn and engage in various healthcare fields through hands on training at Navy Medicine activities and develop skills and qualifications for healthcare careers. REACH is currently active at Naval Hospital Jacksonville, Naval Medical Center Portsmouth, Naval Medical Center San Diego, Naval Hospital Camp Lejeune, Naval Hospital Camp Pendleton, Walter Reed National Military Medical Center and Naval Health Clinic Annapolis. To date, there have been over 200 program graduates, with more than half obtaining Federal employment in healthcare or pursuing college education. As the program continues to produce successful outcomes for our recovering service members, we will look to additional expansion opportunities.

DOD, in conjunction with the Services and Uniformed Services University of the Health Sciences, continues to pursue robust research efforts in support of innovative treatment solutions. Our collaborative efforts with leading academic and research centers are vital to these efforts to advance our understanding of TBI and define best practices. Navy Medicine recently established research collaborations with the University of Pittsburgh's world-renowned Sports Concussion program.

The Navy Comprehensive Pain Management Program (NCPMP) is also integrated with MHP in an interdisciplinary approach focusing on prevention, clinic practice guideline compliance, telehealth, and provider and patient education. In fiscal year 2015, NCPMP began implementation of the Stepped Care approach to pain management providing a framework to standardize pain patient classification, increase ac-

cess to subspecialty care, and improve coordination between primary and specialty providers. NCPMP also completed the first year of Project ECHOTM, a telemedicine program that uses a secure, Internet-based audio-visual network to connect MHP providers with a team of specialists in an educational, mentoring-based model.

Complementary and Alternative Medicine (CAM) modalities are provided throughout the Navy at various MTFs, dependent upon provider training, background, and clinic capacity. The most commonly available therapies to our active duty personnel include acupuncture and chiropractic services. Acupuncture is currently provided in ten MTF-associated clinics and is used to treat chronic pain, migraine headaches, back and neck pain, anxiety, depression, insomnia, auricular pain and a wide variety of other conditions. In fiscal year 2016, the NCPMP is scheduled to expand to include full-time licensed acupuncturist positions at four of our MTFs.

Navy Medicine supports an integrated substance abuse strategy, providing access to high quality services for active duty service members and their families across the diagnostic spectrum, including individuals with complex or comorbid conditions. Navy Medicine's Substance Abuse Rehabilitation Program (SARP), with 53 sites, supports the prevention, diagnosis, mitigation, treatment and rehabilitation of substance use disorders and other mental health conditions, using evidence-based care in accordance with DOD/VA Clinical Practice Guidelines. We incorporate the most current, evidence-based treatments and use innovative information technology approaches to continue supporting those in recovery, even after completion of the acute phase of treatment. The Navy MORE (My Ongoing Recovery Experience) program is an online and telephone-based recovery and support program for patients recovering from moderate to severe substance disorder. MORE offers individually tailored patient education and support over a secure web-based system with world-wide access, 24 hours a day, 7 days a week. Access is available to all individuals who complete a SARP program. To date, over 14,000 patients have taken advantage of Navy MORE content and support services.

Navy Medicine, along with the Army and Air Force, has a strong commitment to expanding our telehealth capabilities in order to provide care beyond traditional care settings and eliminate treatment barriers of time and distance, maximizing the availability of finite resources. Telehealth is particularly important to us because our Navy and Marine Corps forces are forward-deployed around the world, aboard ship and ashore. We support the recent ASD (HA) policy change aimed at enabling healthcare at the patient's location (virtual visits), as well as other priority objectives of remote health monitoring and global expansion of the asynchronous teleconsultation system. These expanded capabilities also support our efforts to recapture workload into our MTFs. Naval Medical Center Portsmouth (NMCP) initiated the Health Experts on-Line Portsmouth (HELP) program, a secure asynchronous service providing a 24-hour subspecialty consultation for providers at CONUS and OCONUS MTFs and afloat commands within the Navy Medicine East area of responsibility. The program connects NMCP specialists and subspecialists with geographically-dispersed providers and supports important clinical consultations. HELP is also providing higher levels of clinical evidence to support decisionmaking regarding the medevac of patients from both ships and submarines. During its first year, HELP provided support to 585 cases and prevented 39 medevacs—efforts that improved patient care and readiness. Pilot studies are also underway to evaluate use of the system to reduce wait time for specialty consults, increasing availability of rapid intervention.

We are also expanding the successful Telecritical Care Unit (TCCU) program operated by Naval Medical Center San Diego. TCCU now supports critical care consultations at both Naval Hospitals Camp Pendleton and Camp Lejeune. This capability allows Navy high-demand intensive care physicians to consult directly with providers at these facilities to ensure the right care at the right place at the right time. Split second decisions can be made in caring for our critically ill patients, avoiding transport or exacerbation of deteriorating conditions.

The Department of the Navy (DON) does not tolerate sexual assault and has implemented comprehensive programs that reinforce a culture of prevention, response, and accountability for the safety, dignity, and well-being of Sailors and Marines. Navy Medicine is committed to the success of the sexual assault prevention and response program and to ensuring the availability of sexual assault medical forensic exams at shore and afloat settings. Consistent with the requirements contained in the fiscal year 2015 National Defense Authorization Act, section 539, the Services' Medical Departments adopted the Sexual Assault Medicine Forensic Examiner (SAMFE) course as the framework for uniform training and certification for providers of sexual assault patient care. As of December 2015, Navy Medicine has trained 331 providers under this new standard. SAMFE providers are trained and

available to ensure timely and appropriate medical care for sexual assault victims at all appropriate military platforms served by Navy Medicine.

We appreciate your continued support of our military construction requirements as we ensure that our patients have access to outstanding facilities in which to seek their care. In September 2015, we opened the new Clinic Annex at Naval Hospital Camp Lejeune. This new 45,000 square foot clinic leverages the latest advances in healthcare and evidenced-based design to provide a world-class environment. The new clinic delivers pediatrics, dermatology, educational and developmental intervention services and optical fabrication. The pediatric spaces house MHP teams, with 29 exam rooms, two treatments rooms as well as support spaces. The dermatology clinic provides care in six exam rooms, two laser treatment rooms, an ultraviolet booth treatment room and clinic support spaces. The clinic also includes spaces for a four bed sleep study suite.

Navy Medicine continues to participate in a wide variety of unique collaborations, sharing agreements and partnerships with the VA. This relationship is important as we continue to assess innovative ways to efficiently and cost effectively share services and work together to meet the needs of both beneficiary groups. Our efforts are evident at the Captain James A. Lovell Federal Health Care Center (FHCC) Great Lakes, a joint use facility with the VA and DOD staff working together to support a single, combined mission. Navy Medicine and the VA continue to support this demonstration project and a thorough evaluation is underway by both agencies with the Report to Congress required by the fiscal year 2010 National Defense Authorization Act (NDAA) to be submitted later this year.

Navy Medicine continues to support our injured Sailors and Marines through the Integrated Disability Evaluation System (IDES). IDES is a combined DOD/VA program where DOD determines the fitness for continued service, VA provides a proposed disability rating for use by DOD and a VA letter containing a proposed estimate of the amount of VA benefits to which the member may be due. In many cases, VA's decision on a veteran's claim, which is issued after receipt of the veteran's DD-214, reflects the proposed rating. As a result, the service members transition to civilian life with minimal gaps in benefits or healthcare. Navy Medicine has primary responsibility to oversee and implement the Navy Medical Evaluation Board (MEB) phase which encompasses the first 100 days of the IDES process. In collaboration with our VA counterparts, Navy Medicine has met the 100-day MEB phase goal consecutively the last 4 years for Navy service members and 3 years for Marine Corps service members.

In an effort to improve the treatment of Sailors and Marines on limited duty, we conducted a pilot project at Naval Health Clinic Cherry Point. Initiated in June 2015, the pilot provides for a multi-disciplinary team evaluation for every limited duty case each month. This quality assurance review confirms we have the correct diagnosis, an appropriate treatment plan, an aggressive and timely decision regarding return to duty, or referral to the Disability Evaluation System. Preliminary results during this period are promising. With an average of 300 service members on limited duty, 57 service members were either returned to duty or referred to IDES prior to 6 months, avoiding a potential additional 147 cumulative months on limited duty. The pilot project will be expanded to additional sites in fiscal year 2016 to include Naval Hospital Twenty-nine Palms, Naval Hospital Oak Harbor, Naval Health Clinic Quantico, and Naval Health Clinic Patuxent River.

The contract for the modernization of the electronic health record (EHR) was awarded by DOD in July 2015 and it will have a transformational impact on military medicine. This new EHR will be used in our MTFs and operational environments, onboard our vessels and in the field with Marine forces. It will reduce variation while providing a single platform to access accurate healthcare data worldwide. The Services, in conjunction with DHA, are fully engaged in the joint implementation efforts to assure the needs of the functional community are well defined and met in this acquisition led by the Program Executive Office (PEO) within Under Secretary of Defense (Acquisition, Technology and Logistics). Navy Medicine Initial Operating Capability (IOC) sites include: Naval Hospitals Bremerton and Oak Harbor and Naval Branch Health Clinics Bangor and Everett. Deployment to these facilities will begin by the end of calendar year 2016.

The health of the force, their families, and all those we serve remains our priority. This commitment is not volume-based or supply-driven. It's a patient-centered and readiness-focused strategy to help ensure that our service members and their families get the care they need, when they need it, and in the venue most appropriate and convenient to get and keep them healthy. I continue to reinforce this point within Navy Medicine: In order to be the provider of choice for our beneficiaries and provide that strong clinical experience to prepare our staff for the next deployment, we must use every opportunity to enhance patient experience and breakdown any bar-

riers to convenient, patient-centered care. We do that best when they are enrolled to us and we have both the visibility and responsibility for their care in our facilities.

A MISSION-READY TEAM

I am proud of our Navy Medicine team—our active and reserve personnel, our Navy civilians and their families—whose work is vital to our mission. Whether serving with the operating forces, delivering care in our CONUS or OCONUS MTFs, conducting research, providing training or supporting important mission-specific activities, Navy Medicine personnel are serving with pride and demonstrating Navy Core Values of honor, courage and commitment around the world. We are committed to recruiting, training and retaining a talented and diverse workforce.

Active component (AC) and reserve component (RC) recruiting and retention remains a top priority. It is our pipeline to ensure we are mission-ready. In fiscal year 2015, Navy Recruiting attained 100 percent of AC medical department officer goal. Through concerted recruiting and retention initiatives, we reached 100 percent overall AC officer manning. However, we are continuing to monitor some specialty shortfalls including general surgery, oral maxillofacial surgery and critical care nursing.

At end of fiscal year 2015 our overall RC officer manning is 95 percent, with Navy Recruiting attaining 78 percent of the officer recruiting goal. RC Medical Corps recruiting consistently continues to be a challenge, with manning at 83 percent and persistent shortfalls in the specialties of anesthesiology, orthopedic surgery and general surgery. The Nurse Corps is manned at 97 percent while the Dental Corps and Medical Service Corps are fully manned. Higher AC retention has resulted in a smaller pool of medical professionals leaving active duty, thereby contributing to the need for greater reliance on the Direct Commission Officer pathway as a means to increase RC medical personnel assets. We continue to work hand in hand with Navy Recruiting Command and the Navy Reserve Force to implement important recruiting and retention incentives, as well as exploring other opportunities to recruit RC medical personnel.

Navy attained 100 percent of the fiscal year 2015 recruiting goal for both the AC and RC Hospital Corps. While overall manning for both components is healthy, we continue to monitor AC Fleet Marine Force Reconnaissance Corpsman specialty shortages primarily due to billet growth driven by Special Operations requirements and training constraints.

I am grateful for your support of accession and retention incentives which have enabled us to realize manning improvements over the last several years. Continued funding has supported these gains and remain critical for the success of AC and RC recruiting and retention. Our efforts are also important as we work to meet our increased Navy Medicine manpower requirements in support of the Marine Corps.

Throughout our system, our Federal civilian workforce provide patient care and deliver important services in our MTFs, research commands, and support activities as well as serve as experienced educators and mentors, particularly for our junior military personnel. They provide stability and continuity within our system, particularly as their uniformed colleagues deploy, change duty stations or transition from the military. We continue to emphasize the importance of attracting and retaining talented civilian personnel within Navy Medicine and use the authorities available to us to meet our requirements.

EXCELLENCE IN MEDICAL EDUCATION

The Naval Medicine Education and Training Command (NMETC) leads our important education and training efforts along with its subordinate commands: Navy Medical Operational Support Center (NMOTC); Navy Medical Professional Development Center (NMPDC); and Navy Medical Training Support Center (NMTSC). Their collective efforts support the full spectrum of relevant and responsive military training and medical education that directly support our readiness and professional development. Our goal is to apply cost-effective learning solutions, fully leveraging partnerships and joint initiatives.

We ask a lot of our hospital corpsmen and it is critical that their training prepare them for their demanding responsibilities. I recently traveled to the Medical Education Training Campus (METC) onboard Joint Base San Antonio-Fort Sam Houston to see firsthand our corpsmen training alongside their Army and Air Force counterparts. The METC is a state-of-the-art center delivering basic and advanced medical education and providing unmatched opportunities for collaboration in a joint training environment. In fiscal year 2015, we had over 3,500 Sailors train as hospital corpsmen with another 1,400 trained in advanced technician programs. I am

also pleased that 29 Navy Medicine METC instructors obtained either their associate or bachelor degrees and 89 qualified as Master Training Specialists.

Navy is participating in the Uniformed Services University of the Health Sciences Enlisted to Medical Degree Program (EMPD2). The program provides an opportunity for our highly-motivated, academically promising service members to obtain a medical degree. EMPD2 consists of intensive coursework, preparation and mentoring to prepare students for application to medical school. Upon completion of the 24 month advanced educational program, successful students will be competitive for acceptance to medical school. The first Marine cohort of two students is currently excelling in their first year of the program. Our first Navy cohort will begin their studies later this year.

The Navy Trauma Training Center (NTTC) is an important program to help our personnel hone and sustain their combat trauma skills. NTTC operates at the Los Angeles County + University of Southern California Medical Center (LAC+USC), a renowned Level 1 trauma center. Our medical personnel participate in 21-day course in operational combat casualty care using traditional didactics, team building, battlefield trauma resuscitation and hands-on patient care at LAC+USC. NTTC hosts 11 iterations per year with 24 rotators per course. Since the program's inception in 2002, we have trained approximately 2,900 medical department personnel.

Navy graduate medical education (GME) is critical to our mission of maintaining a tactically proficient and combat-ready medical force—a force of fully trained, clinically competent physicians who are ready to deploy wherever needed. Their training, and the care they provide in our teaching facilities, directly supports our readiness. Strong GME is the hallmark of Navy Medicine and our performance continues to demonstrate the quality of our programs. Our 3 year average first time board certification pass rate for Navy trainees is 93 percent, exceeding the national average of 88 percent. Our overall pass rates meet or exceed the national average in virtually all primary specialties and fellowships. Our Navy-trained Medical Corps officers are exceptionally well-prepared to provide care to all members of the military family, and in all operational settings and through all echelons of care—from the battlefield to the bedside at our MTFs.

Military GME is critical since we recognize that the civilian sector does not have the capacity to provide the residencies needed to maintain our medical specialty requirements. In addition, advanced training is essential to the recruitment and retention of medical specialists. Navy Medicine works to ensure that our GME training pipeline is adequate to meet our current and projected requirements, including having qualified candidates for all our programs. Specialties that we continue to monitor closely include: general surgery, family medicine, psychiatry and aerospace medicine. Our Dental Corps, Medical Service Corps and Nurse Corps officers also participate in their respective graduate dental and health education program designed to support specialty requirements.

NAVY MEDICINE RESEARCH AND DEVELOPMENT: COUNTERING THREATS OF TOMORROW

Navy Medicine maintains an important global research and development (R&D) program. Led by the Naval Medical Research Center (NMRC), this eight laboratory, four continent enterprise runs numerous joint Service initiatives and executes a well-established cooperative infrastructure working with universities, industry and, in countries around the world to improve health and advance science. The mission is focused on biomedical research supporting the warfighter and ongoing research and development ensures service members' health is better protected, operational tempo is more effectively maintained and rehabilitation of the ill and injured is continuously improved. NMRC and the seven subordinate laboratories collectively form a Navy Medical R&D enterprise that is the Navy's and Marine Corps' premier biomedical research, surveillance/response, and public health capacity-building organization.

Our research remains operationally focused with important priorities including: traumatic brain injury and psychological health; medical systems support for maritime and expeditionary operations; wound management throughout the continuum of care; hearing restoration and protection; undersea and aerospace medicine; and endemic, emerging and deliberate infectious diseases prevention, detection and response. These efforts fully support our readiness by developing R&D products that preserve, protect, treat, or enhance the health and performance of Navy and Marine Corps personnel.

The diverse capabilities and geographical distribution of the eight laboratories reflect the broad mission and vision of this enterprise. On any given day, researchers at the OCONUS labs may be working with host national government collaborators to assess the threat of emerging infectious diseases. CONUS laboratory researchers

may be evaluating methods to mitigate the effects of stressful physiological or psychological environments on human health and performance. Other investigators may be conducting human or animal trials for experimental vaccines, molecular determinants of wound healing, or regenerative medicine procedures. The work is operationally focused and highly regarded throughout the U.S. and international scientific community.

Navy Medicine R&D is actively engaged in global health security efforts including a focus on mitigating the spread of antimicrobial resistance and emerging and re-emerging infectious diseases. Our labs work with partners around the world to enhance detection of emerging disease threats and bio-surveillance capabilities, to improve reporting systems and to build host-country response capacity.

The Navy Malaria Program, headquartered at the NMRC, collaborates with the Walter Reed Army Institute of Research (WRAIR), the DOD OCONUS medical research laboratories, as well as government, academia, private foundations and biotechnology partners to develop a malaria vaccine to prevent malaria morbidity and mortality in military personnel and in vulnerable populations worldwide. NMRC is collaborating with a biotechnology partner and the WRAIR to design and conduct FDA-regulated clinical trials of a highly promising malaria vaccine that consists of a weakened form of the *Plasmodium falciparum* malaria parasite. This vaccine is easily administered, well-tolerated, and shown to provide high protective efficacy against infection with the parent malaria strain from which the vaccine was derived. The vaccine also protected against infection with a genetically unrelated malaria strain. This year the NMRC will conduct a follow-on clinical trial with this vaccine to evaluate an improved dosing regimen designed to induce the high levels of long-lasting, broad protection that are required for a malaria vaccine to protect deployed military personnel.

The NMRC Malaria Department also maintains a state-of-the-art discovery research program focused on identifying unique proteins on the malaria parasite that can be used to develop next generation malaria vaccines. The Malaria Department's concept development program uses animal models and transgenic malaria parasites to evaluate new malaria vaccine candidates and improved vaccine formulations before moving them to human clinical trials. They recently completed the initial phase of a Bill and Melinda Gates Foundation-supported clinical trial designed to determine the specific human immune responses involved in generating protection against malaria infection. Analysis of the data generated by this clinical trial is due in the coming year and will help guide the development of more efficacious malaria vaccines.

Collaborative efforts are important to sustaining our research efforts. During fiscal year 2015, our labs executed 95 Cooperative Research and Development Agreements (CRADAs) and had a total of 215 active CRADAs delivering over \$15 million in research funding. In addition, we have 91 active formal agreements with other governmental agencies.

Navy Medicine also has active Clinical Investigations Programs (CIPs) in place at our teaching MTFs to support our post-graduate healthcare training programs. These investigations, in addition to satisfying program accreditation requirements, also support the need to develop new knowledge and advanced interventions to better treat service members with combat injuries, to prevent training injuries and to provide better care beneficiaries. In fiscal year 2015, our programs received an additional \$4.72 million in external grants for clinical research, an increase of 18 percent over the prior year. Navy MTFs conducted a total of 510 clinical research projects resulting in 373 publications in high-impact, peer-reviewed medical and scientific journals and 907 presentations at both national and international scientific meetings.

OUR WAY FORWARD

Our Sailors and Marines know that military service can be professionally rewarding, physically demanding, and potentially dangerous. They and their families expect us to protect their health, prevent injury and disease as best we can, and heal them when they're wounded or injured. Equally important, they want that same support for their families by having access to high quality healthcare when they are deployed and at home. In addition, our retirees and their families, through service and sacrifice, have earned a healthcare benefit that is both comprehensive and affordable. A strong and vibrant direct care system allows us to do those things while providing that exceptional clinical experience for our staff, from sickbay to medical center, augmented by vibrant R&D and top quality education and training so that we can ensure we will have done all we can to save lives on the battlefield and return home safely America's sons and daughters.

Moving forward, all of us recognize the formidable work ahead during these transformation times. We must sustain the gains we made over the last decade and a half in delivering unmatched combat casualty care, and redouble our efforts to provide high quality, accessible and convenient care to our patients. I believe that the special fidelity we share with our patients makes us well positioned to meet these challenges.

Senator COCHRAN. Thank you.

We'll now hear from Lieutenant General Mark A. Ediger, who is the Surgeon General of the Air Force.

General Ediger.

STATEMENT OF LIEUTENANT GENERAL MARK A. EDIGER, SURGEON GENERAL, DEPARTMENT OF THE AIR FORCE

General EDIGER. Chairman Cochran, Ranking Member Durbin and distinguished members of the Subcommittee, thank you for this opportunity to discuss Air Force medicine and our role in the military health system.

We fully support the Committee's work to ensure the military health system provides those we serve with the best possible care in all the environments in which our military serves.

We have 683 medical airmen deployed today. We have asked our medical airmen, as part of the joint team, to stretch their already considerable capabilities to support the Air Force and the joint team across the full range of military operations. As such we owe these incredible young men and women our very best efforts in capturing the hard lessons learned from their experiences and putting those lessons to work.

Their ingenuity and accomplishments drive our research in identifying gaps and improvements in our programs, our operational procedures and are overall readiness.

I will focus my comments today on our work in Air Force medicine in researching operational medical issues identified in the past 15 years of support to combat operations. In order to continue advancements in our capability to provide trauma care, treat operational health conditions and safely transport ill and injured servicemembers across, in many times, across great distances.

I will also describe how we have changed our processes for sustaining a ready, deployable medical force.

Since the early 1990s the Critical Care Aeromedical Transport Teams, known as the CCATTs, have evolved to become an international benchmark for safe, critical care patient movement. We adapted this capability and expanded it 2 years ago to 4 years ago to create the Tactical Critical Care Evacuation Team to meet combatant command requirements for Intra Theater Tactical Critical Care Transport. We are now assessing means of enhancing this capability to include some aspects of trauma stabilization during transport in order to meet the changing operational scenario.

The Air Force deployable hospital is scalable to operational and medical scenarios. We call it the Expeditionary Medical Support Health Response Team or EMEDS. This capability is postured in eight Air Force hospitals and also embedded in one U.S. Army hospital. This capability provides emergency care within 1 hour of arrival and surgery with critical care within 6 hours of arrival.

The focus on this system is on agility with modest capacity.

Our research programs include in route care pertaining to aeromedical and critical care evacuation, expeditionary medical operations and care for operational health conditions. These programs pursue new knowledge and trauma care in transport environments through investigations of impacts to injury and disease during transport. This knowledge is being used to develop new treatment guidelines and employ new technology to improve outcomes.

Many of the needs in the area of medical research and development come directly from deployed military medical personnel as collected by the joint trauma system. Such a requirement led to the current work to develop the multi-channel, negative pressure wind device. Now being tested, this device will improve wound care while reducing the logistics footprint and power utilization during transport of wounded.

Another operationally driven requirement led to the development of the Trauma Specific Vascular Shunt developed to improve mortality and limb salvage, function and quality of life for those with major extremity wounds.

Air Force researchers and scientists at the 711th Human Performance Wing at Wright-Patterson Air Force Base, Ohio, have made great strides in the research to enhance human performance in the employment of new technological systems such as the F35 helmet mounted display. This research has yielded advances such as the operationally based vision assessment, the air crew mounted physiologic sensor suite, an assessment tool for pilot physiologic and cognitive performance.

In response to the new generation of fighter aircraft the 711th Human Performance Wing created a laboratory that evaluates the performance of aircraft oxygen systems that enabled the development of mask sensors to monitor the cardio respiratory response of pilots in high performance, next generation aircraft.

As a health system we know we must continuously improve.

In 2015 Air Force medicine implemented a revised performance management system. And we are seeing indications of performance against national benchmarks but we know we still have work to do in this area. And we are focused on continuously improving in the areas of quality, safety and access to care.

To ensure the readiness of our medical force we have evolved to a model in which Air Force surgeons and critical care clinicians devote a portion of their time to provision of care in partner institutions such as VA Medical Centers and Level One Trauma Centers with Baltimore Shock Trauma as being a prime example of a very productive partnership.

However, the bedrock of our readiness remains the military hospital. The broad scope of care we provide to retired military members, their families and veterans is key to our readiness.

The Air Force has 48 sharing agreements with the VA including nine master sharing agreements by which all clinical services at specialty facilities are available for referral from the VA. This provides the complex cases needed to maintain clinical currency of our deployable teams while also enhancing access to care for veterans at a savings to the government.

VA referrals to the Air Force hospitals grew steadily. However, we did see a decline in 2015 under the Veteran's Choice Act. We

are concerned about this and working closely with our VA colleagues and the Department of Defense leadership to map a process to reverse that trend.

I thank the Committee for its resolute support and dedication to the welfare of the airmen, soldiers, sailors and marines, their families and veterans whom we are honored to serve.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL MARK A. EDIGER

Chairman Cochran, Vice Chairman Durbin, and distinguished members of the subcommittee, thank you for inviting me to testify before you today.

The United States Air Force, in concert with our sister Services, has answered our Nation's call over the past decade and a half in executing demanding missions in defense of the Nation. Readiness has been, and remains the key factor in all we do. We have asked our Airmen to stretch their already broad range of capabilities to accomplish their missions, and as always, they have exceeded our expectations. As such, we owe these incredible young men and women our very best efforts in capturing the hard earned lessons learned from their experiences; and putting those lessons to work. Their ingenuity and accomplishments drive our research in identifying gaps and improvements in our programs, operational procedures, and overall readiness. One such vital lesson we have gleaned is, as we prepare for future success, we must ensure the Air Force continues to field both Medically Ready Airmen and Ready Medical Airmen. I will focus my comments today on the Air Force Medical Service's (AFMS) work in researching operational requirements from the field, and advancements in how we medically treat and transport ill and injured service members. I will describe the tremendous benefit we have derived from sharing agreements between our military treatment facilities, and other Federal and non-government agencies; allowing increased access to care for veterans and all the beneficiaries we have the honor of serving, while improving skill sets that may otherwise be degraded. The military medical research advances we have made over the past 15 years are saving the lives of our uniformed members, our veterans, and in some cases, have the potential to save countless civilian lives. Also, work such as casualty evacuation and enroute care, in which the Air Force is the natural lead, has provided great insight into how we evacuate the injured but also when it is the safest to transport over great distances. We are still learning, for instance, how the transport environment affects specific types of injuries and the body's physiologic reaction to injury.

Our programs include enroute care research pertaining to aeromedical and critical care evacuation, expeditionary medical operations, and care for operational health conditions. Under the umbrella of "Optimal Time to Transport" and cabin altitude restriction, the AFMS is conducting research to diminish the impact of transport and to determine the optimal time to transport patients. The purpose of this program is to provide foundational knowledge on transport environments and investigate the impact of factors on injury and disease states to mitigate any harmful impacts. Another project in this program is studying outcomes of patients transported with or without cabin altitude restrictions. We need evidence to validate what conditions benefit by restricting the cabin altitude during transport. This research is important to ensure the best possible clinical outcomes, as well as the best possible mission execution. As the world leader in this area, the Air Force is well positioned to set the standards for critical patient movement.

In the early 1990s, Critical Care Air Transport Teams (CCATTs), were developed and have become the international benchmark for safe Intensive Care Unit (ICU)-level patient movement. We applied the effectiveness of CCATT to create the Tactical Critical Care Evacuation Team (TCCET). This capability consists of teams of medical personnel equipped with specialized skills and tools to meet combatant command requirements for intra-theater enroute tactical critical care transport in rotary-wing or other tactical aircraft. Moving forward, our TCCET has advanced to a new TCCET-Enhanced, or TCCET-E, a new capability to evacuate patients while trauma stabilization procedures are conducted. This capability is employed in the EUCOM and USAFRICOM theaters today.

The Expeditionary Medical Support Health Response Teams (EMEDS-HRT), an evolution of our combat-proven and scalable Expeditionary Medical Support (EMEDS) teams, are postured across Air Force medical units and embedded in two Army hospitals. They provide emergency care within minutes of arrival, surgery and

intensive critical care units are operational within six hours, and full ICU capability is available within 12 hours of arrival. The HRT also helps tailor clinical care to the mission, adding specialty care such as OB-GYN and pediatrics for humanitarian assistance or disaster relief missions. This evolved expeditionary HRT capability has been successfully deployed and is on track to replace the previous generation of EMEDS.

Readiness is always at the forefront of any discussion on how to prioritize research and development. Many of the needs in the area of medical R&D come directly from Medical Airmen in the field. For example, one need identified resulted in the development of the Multi-Channel Negative Pressure Wound Device. Though still in the developmental stage, this device will improve wound care while reducing the logistics foot print and power utilization during transport. Another example is the advances our medical researchers have made in the use of Extra Corporeal Life Support equipment and training. Commonly used in civilian hospital settings and referred to as Extracorporeal Membrane Oxygenation, its use can be lifesaving, working as a substitute set of lungs, processing oxygen and releasing carbon dioxide for the body, when the patient has suffered devastating lung injury or even assisting the body in oxygenation during procedures such as heart bypass surgery. This procedure is challenging in any hospital setting. The challenge multiplies when the patient is an injured service member minutes away from the battlefield, in an air medevac taxiing down an expeditionary runway.

Medical research in support of Expeditionary Medicine takes the common medical procedures, especially those procedures that our warfighters have identified as gaps, and applies our best research and development talent to solving those problems; often resulting in a solution that meets the needs of both the military and civilian medical community. One prominent example of this is the Trauma Specific Vascular Shunt. AFMS researchers developed this shunt as part of a program aimed at developing solutions to capability gaps to enhance surgical and pharmacological interventions required to achieve improvements in mortality, limb salvage, functionality, and quality of life for traumatically injured patients.

The research that helps us to provide the best possible critical care is, and should remain, a top priority; however, other operationally relevant research that fills the gaps and answers requirements from the field are important and valuable as well.

As an illustration, Air Force researchers and scientists with the 711th Human Performance Wing at Wright-Patterson Air Force Base, Ohio have made great strides in the areas of Operationally Based Vision Assessment (OBVA), Aircrew-Mounted Physiologic Sensor Suite (AMPSS) equipment, Pilot Physiologic and Cognitive Performance, and Aeromedical Operational Psychology. Examples of OBVA use in the field can be found in the KC-46 remote vision system (RVS) boom operator (Airmen who physically control the aerial refueling mechanism) visual performance research. This research examines medical and selection standards needed for KC-46 RVS stereoscopic display use. The OBVA program also researches the F-35 Helmet-Mounted Display (HMD) vision testing, which is vital for setting the medical and vision standards for F-35 HMD, and identifies potential improvements to Air Force vision standards and screening for optimized pilot performance. The operational and medical readiness requirement of fighter pilots prompted our research into the AMPSS equipment. Its origins are in the lessons learned from F-22 testing and investigations. The 711th HPW had a large role in the early F-22 investigations, which prompted creation of a laboratory to evaluate performance of aircraft oxygen generation systems and development of mask sensors, now known as the Aircrew-Mounted Physiologic Sensor Suite. Researchers developed these sensors to monitor the cardiorespiratory response of high-performance pilots. AMPSS is also a component of a larger fighter-pilot centric effort, called Pilot Physiologic and Cognitive Performance (P2CP). The sensors associated with P2CP monitor the performance of fighter pilots can also be expanded to Remotely Piloted Aircraft/Distributed Common Ground System (RPA/DCGS) operators as well.

We are also conducting other psychological health surveillance research to assist in monitoring the readiness of remote warriors (RPA, DCGS, and Intelligence). Our intent is to improve aeromedical psychology procedures for early identification and outreach of Airmen flying with untreated distress and negative changes in their psychological (emotional, behavioral, and social) functioning. These procedures will enable our military mental health professionals to examine and predict psychological reactions to key sources of occupational stress for the early identification of aircrew at risk for medically significant health problems (e.g., psychological distress, post-traumatic stress disorder, suicidal ideation, alcohol abuse, etc.). Our research results have been utilized to modernize training and procedures for medical and mental health providers tasked with the outreach to aircrew spread across 40 Air Force air-

crew squadrons within the continental United States. This research also transitions easily to our Air Force ground operators.

Collaboration with the Department of Veterans Affairs (VA) through sharing agreements enhances our providers' clinical currency, saves Federal dollars, and maintains readiness. Because of our efforts to encourage participation in the DOD-VA Health Care Resource Sharing Program, we now have 49 Air Force-VA sharing agreements with 9 Master Sharing Agreements covering all available clinical services at nine MTFs. Our relationship with the Department of Veterans Affairs (VA) extends to clinical currency opportunities for both entities. By enhancing clinical skills through partnerships with busy, high acuity civilian medical centers regular sustainment training for all team personnel, and developing new medical capabilities, we are committed to being better prepared when the next contingency presents itself.

The growth of VA patients in our facilities support veterans in need of services, but also greatly enhances our readiness by providing the acuity and volume of patient care that cannot be found in the active duty and active duty family member population. Growth in our outpatient care to veterans stagnated in fiscal year 2015 over fiscal year 2014 due to issues in the 3rd quarter with the implementation of the Veterans Access, Choice and Accountability Act of 2014. Growth in inpatient care for veterans also slowed in fiscal year 2015.

In contrast to decreasing inpatient and outpatient growth, one of our newer sharing sites, the 88th Medical Group at Wright-Patterson AFB, Ohio saw a 46 percent increase in VA inpatient dispositions from fiscal year 2012 (2,949) to fiscal year 2015 (4,300). This is significant in that it is instrumental in providing the complex cases needed to maintain clinical currency of deployable teams while enhancing access to care for veterans. WPMC has increased their VA outpatient workload from fiscal year 2013 (270) to fiscal year 2015 (2,827) by 947 percent and inpatient dispositions by 2,763 percent for the same time period (fiscal year 2013—2018; fiscal year 2015—229). Likewise, VA/DOD sharing agreements save the VA a minimum of 10 percent over the cost of care in the community. At our largest sharing site, David Grant Medical Center, Travis Air Force Base, California, that savings is bumped up to 25 percent as that is the discount rate agreed upon at that site. Other sites with increased discount rate include Keesler Medical Center, Mississippi; Eglin Air Force Base, Florida; and Wright-Patterson Medical Center (WPMC), Ohio. All of these sites are among the top six Air Force VA/DOD sharing sites that see the majority of VA patients across the AFMS.

Much of the success at WPMC in providing specialty care to veterans can be attributed to the WPMC and Veterans Integrated Service Network (VISN) 10 leadership. To facilitate discussions and move the sharing initiative forward, the team formed the Buckeye Federal Healthcare Consortium (BFHC) in 2015. Membership consists of representatives from the VA Medical Centers in the VISN, WPMC, and VISN 10. The BFHC construct is based on the DOD's Quadruple Aim of Readiness, Better Care, Better Health, and Best Value and supports maintenance and expansion of clinical currency; provides for convenient, efficient, quality care; increases access to care for veterans; and seeks to reduce cost by eliminating duplication of services amongst Federal agencies. Since the formation of the BFHC, outpatient encounters have increased more than 250 percent and Relative Value Units have grown more than 500 percent. Inpatient admissions have grown more than 400 percent and relative weighted product over 5000 percent.

Another program important to the AFMS and entire Military Health System is graduate medical education (GME). The Air Force has 85 GME programs, in 31 specialties to develop the knowledge, skills and attitudes of highly qualified medical personnel to support the missions of the AFMS. These training programs help ensure the competency and currency of medical personnel by providing healthcare to deployed military personnel and other beneficiaries.

In contrast, the civilian sector does not have the capacity to provide the residency and fellowship training needed to maintain our medical specialty requirements. As a result, approximately 15 percent of the overall physicians in the workforce today graduated from military GME platforms. Participation in GME, to include leadership, research, teaching, and mentorship, is vital to maintaining the competency and currency of all medical corps in the AFMS. Moreover, advanced training is essential to the recruitment and retention of medical specialists.

The overall volume of active duty and civilian GME training, coupled with the medical school pipeline, are necessary to maintain the current AFMS delivery of health readiness to DOD personnel and their families, health service support to combatant commanders and high-reliability care to all beneficiaries.

Thank you for this opportunity to discuss how the AFMS is taking the hard-learned lessons of the past 15 years of real-world medical support to the forces, and

transforming those lessons into requirements-driven research and resource sharing that maximizes benefit to all we serve. Our medical forces must stay ready through their roles in patient-centered, full-tempo healthcare services in our medical treatment facilities that translate to deployed environments; that ensure competence, currency, and satisfaction of practice and foster innovation. We are committed to providing the most effective prevention and best possible care to a rapidly changing Air Force, both at home and deployed. I wish to thank the committee for its steadfast support and dedication to the welfare of the Airmen, Soldiers, Sailors, Marines, their families and veterans.

Senator COCHRAN. Thank you, General Ediger.

We will now hear from Mr. Chris Miller, Program Executive Officer of the Defense Health Care Management Systems.

STATEMENT OF CHRIS MILLER, PROGRAM EXECUTIVE OFFICER, DEFENSE HEALTHCARE MANAGEMENT SYSTEMS

Mr. MILLER. Chairman Cochran, Ranking Member Durbin and distinguished members, thank you for the opportunity today to address the Subcommittee on Defense of the Senate Appropriations Committee. I am honored to represent DOD as a Secretary's Program Executive responsible for our Department's efforts to modernize our electronic health records and to make them interoperable with those of the VA and our private sector providers.

Our servicemembers, veterans and their families deserve nothing less than the best possible healthcare and services that the DOD and VA can provide. Our mission is to fundamentally and positively impact the health outcomes of our active duty military, veterans and eligible beneficiaries. To this end, DOD is committed to two equally important objectives.

Improving data interoperability with both the VA and our TRICARE health partners.

And successfully transitioning to a state of the market EHR that leverages advances in the commercial health IT and is cost effective to the American taxpayer.

Ultimately this means that up to date and comprehensive healthcare information is available whenever and wherever it is needed to facilitate decisions.

I am proud to say that we have made significant progress in achieving both of these objectives.

Today DOD and VA share a significant amount of health data, more than any other two major health systems. DOD and VA clinicians are currently able to use our existing software applications to view more than 7.4 million shared patients. This data is available in real time and the number of records continues to increase.

A tangible product of this work can be seen in a joint legacy viewer which provides an integrated display of DOD, VA and TRICARE provider health data. Originally developed in 2014 it's a pilot program with just 275 users at nine sites, it has now been fielded to every major medical facility, all major VA Medical Centers and every Veteran's Benefit Administration regional site and supports over 70 thousand registered users.

As a result of this progress DOD certified it to Congress in November of 2015 that we have complied with the fiscal year 2014 NDA requirement of interoperability with the VA.

DOD's modernization effort is also well underway.

In July 2015 the competitive contract for a new EHR (electronic health record) was awarded to a team led by Leidos that includes 34 other partners.

At the core of this modernization will be Cerner Millennium, one of the most widely used and trusted EHRs on the market today. It is used at nearly 18 thousand facilities worldwide. Henry Schein's Dentrrix will provide the dental component of the new EHR and is also an industry leading capability.

Our new EHR system will be open architecture and continue to provide industry leading interoperability with the VA, other Federal agencies and the private sector by using recognized Office of the National Coordinator standards. This system is currently beginning testing and we remain on track to bring the system live later this year in the Pacific Northwest.

DOD and VA remain in mutual agreement that interoperability with each other and our private sector care partners remains a top priority. We agree that this broader interoperability does not depend on a single system. This strategy makes sense for both Departments and provides the most effective approach moving forward to care for our service members, veterans and their families.

This is the last time I'll appear before you today as DOD's Program Executive for Defense Healthcare Management Systems. In the coming weeks I will begin transitioning out of my current role and will assist in bringing in a new acquisition executive to continue our important mission. I am honored to have spent the last 30 months working for our veteran servicemembers and their families and I am proud of the accomplishments we have made during that time.

It has not been easy. But our commitment and our focus was unwavering.

Most importantly, I would like to thank my family supporting me these last few years. This job has required me to spend far too much time away from home and so I look forward to returning to Charleston to spend time with my family very soon.

Chairman Cochran and Ranking Member Durbin, thank you again for the opportunity to testify today. DOD has taken very seriously its responsibility to provide modern health IT solutions that make a difference and to enable seamless sharing of integrated health records with the VA and our TRICARE network providers.

We fully recognize that our mission is not complete and there will be challenges ahead.

This is a unique opportunity for the military health system. We have the opportunity to save money, save time and most importantly, save lives.

The Department greatly appreciates the Congress' continued interest and efforts to help us deliver the healthcare that our Nation's veterans, servicemembers and their dependents deserve whether it's on the battlefield or at home with their families or after they have faithfully concluded their military service, the Department of Defense and our colleagues at the Department of Veterans Affairs will continue to work closely together in partnership with the Congress to deliver the benefits and services to those that sacrifice so willingly for our Nation.

Again, thank you for this opportunity and I look forward to your questions today.

[The statement follows:]

PREPARED STATEMENT OF CHRISTOPHER A. MILLER

Chairman Cochran and Ranking Member Durbin, thank you for the opportunity to address the Subcommittee on Defense of the Senate Appropriations Committee. I am honored to represent DOD as the Secretary's program executive responsible for the Department's efforts to modernize our electronic health records (EHRs) and to make them interoperable with those of VA and our private sector providers.

Our service members, veterans, retirees, and their families deserve nothing less than the best possible healthcare and services that DOD and VA can provide. Our mission is to fundamentally and positively impact the health outcomes of active duty military, veterans, and eligible beneficiaries. To this end, DOD is committed to two equally important objectives: improving data interoperability with both VA and our private sector healthcare partners, and successfully transitioning to a state-of-the-market electronic health record that is interoperable with VA and the commercial healthcare systems used by our TRICARE network providers. Ultimately, this means that up-to-date and comprehensive healthcare information is available whenever and wherever it is needed to facilitate decisions.

I am proud to say that we have made significant progress in achieving both of these objectives. Today, DOD and VA share a significant amount of health data—more than any other two major health systems. DOD and VA clinicians are currently able to use their existing software applications to view records of more than 7.4 million shared patients who have received care from both Departments. This data is available today in near real time and the number of records viewable by both Departments continues to increase. Both Departments' healthcare providers and VA claims adjudicators successfully access data through our current systems nearly a quarter of a million times per week. As a result of this progress, DOD certified to Congress in November 2015 that it has complied with the fiscal year 2014 National Defense Authorization Act (NDAA) requirement of interoperability with VA.

On a parallel path, DOD's modernization effort is well underway. In July 2015, the competitive contract for a new EHR was awarded to a team led by Leidos that includes 34 other partners. At the core of this modernization will be Cerner's EHR, one of the most widely used and trusted EHRs on the market today, used in nearly 18,000 facilities worldwide. Henry Schein will support the dental component of the new EHR, and is also an industry-leading capability. In addition to utilizing the Cerner and Henry Schein suite of solutions, this new EHR system will continue to provide industry leading interoperability with the VA, other Federal agencies, and the private sector by using federally recognized Office of the National Coordinator (ONC) standards.

DOD and VA remain in mutual agreement that interoperability with each other and our private sector care partners remains a priority. We agree that this broader interoperability is not dependent on a single system. This strategy makes sense for both Departments and provides the most effective approach moving forward to care for our service members, veterans, retirees, and their families. We continue to have direct senior-level oversight from both Departments as well as rigorous oversight from both Congress and the Executive Branch.

Goal 1: Provide Seamless Integrated Sharing of Standardized Health Data Among DOD, VA, and Private Sector Providers

In November 2015, DOD formally issued a letter to Congress certifying that it has met the requirement of interoperability in the fiscal year 2014 National Defense Authorization Act (NDAA) by mapping all data in DOD's AHLTA outpatient EHR system to existing national standards. Based on the recommendations of DOD and VA functional representatives, DOD also integrated data from other DOD health IT systems, including inpatient, theater and pharmacy. We fully recognize that health IT continues to evolve and that we must continue to improve our capabilities. The complexity of our interoperability mission takes time and steadfast commitment. This process involves two of the world's largest healthcare providers, with hundreds of thousands of users, more than three hundred systems, and millions of data elements. This requires strong communication, collaboration, and technical leadership.

A tangible product of this work can be seen in the Joint Legacy Viewer (JLV), which provides an integrated display of DOD, VA, and TRICARE network provider data for clinicians and other users. For DOD clinicians, JLV is embedded directly into AHLTA, allowing any registered user to easily view a comprehensive picture

of a beneficiary's health record, regardless of whether the data resides in AHLTA, VISTA, or a TRICARE network provider's EHR. JLV has received considerable praise from both DOD and VA users, with many commenting on its ability to save time in clinical interactions and to allow benefits adjudicators to cross-reference retiree records with the more comprehensive medical record in JLV. Because of this positive feedback, DOD and VA have sought to rapidly expand access to JLV. Originally developed as a pilot program with 275 users at 9 sites in 2014, JLV has now been fielded to nearly every DOD medical facility, all major VA medical centers, and every Veterans Benefits Administration regional site, supporting over 70,000 registered users. Throughout this process, JLV has undergone rigorous testing, consistently scoring high marks for functionality and usability. Additionally, in its most recent assessment, DOD's Operational Test and Evaluation (OT&E) office verified that all previously identified defects have been corrected in the newest release, which will also be tested in the near future. As JLV usage has become more widespread, the Department has phased out existing legacy viewers as they become obsolete.

VA JLV End User Feedback

"My use of JLV is as a Rater on the Rating Board ... the time saved in finding this information on JLV is minutes vs. days, weeks and sometime months when I have to go back to the Veteran, VAMC or QTC to get to get the same information." - Rating Veterans Service. Representative, VBA Regional Office, Salt Lake City, UT

"I use JLV quite regularly for missing records cases. I know I am able to find all the electronically available progress notes and radiology notes in one view in JLV, without hunting through every category under the DoD records tab in CAPRI." - Military Records Specialist, Alaska VA HCS & Regional Office

"The format, the layout, and the customize-ability is fabulous; JLV may knock about a minute off the time to complete a teledermatology consultation. When I'm doing 50 or 60 a day, that's a BIG deal." -Dermatologist, VA Puget Sound HCS, Seattle

"This is really so helpful; I was able to retrieve the documents from Tripler/DoD which is exactly what I was looking for...without waiting to hear from Tripler to get them to me." - Senior Social Worker, Oncology/Hematology, VA Palo Alto HCS

"...it's a great tool for our clinicians. This morning I was able to locate a cardiac echocardiogram result for my colleague in less than 2 minutes." - Physician, Chief, Comp and Pen Service, VA San Diego Healthcare System

*Provided by Health Solutions Management, Health Informatics, Office of Informatics and Analytics, Veterans Health Administration (VHA) and Office of Information Technology (OI&T), Department of Veterans Affairs

Over the last 30 years, information technology has revolutionized industry after industry, dramatically improving the customer experience and driving down costs. Today, in almost every sector besides health, electronic information exchange among different systems is a common way to do business. A cashier scans a bar code to add up our grocery bill. We check our bank balance and take out cash with a debit card that works in any ATM machine across the globe—regardless of who manages the ATM.

Achieving this type of seamless data integration is dependent on achieving a common set of technical standards across all healthcare venues, not on sharing the same software system. Since 2008, DOD and VA have been exchanging a significant amount of electronic information. Unfortunately, most of the information had not been standardized so that it could be used for automated reminders or clinical decision support. As an example, DOD and VA may have had different names for "heart rate" in their software systems, making it difficult for clinicians to integrate and track this vital sign across the Department. For data sharing and interoperability to be meaningful and useful to clinicians, healthcare data must be mapped to standard codes and displayed in a user-friendly way. Since the majority of care comes from outside of DOD, this is equally important for sharing data with our TRICARE network providers, who use a variety of different health IT systems.

Much of this work has been accomplished with the assistance of the DOD/VA Interagency Program Office (IPO), which leads and coordinates the two Departments' adoption of and contribution to national health data standards to ensure seamless integration of health data between DOD, VA and private healthcare providers. To ultimately map the data to national standards, DOD and VA identified 25 prioritized data domains, such as allergies, immunizations, vital signs, and family history. Three of these domains contain no structured data to map, and one, radiology images, already exists in a common industry format. With the assistance of the IPO, DOD has completed the initial mapping of the remaining 21 domains requiring national standard terminologies, representing more than 1.8 million unique

DOD clinical terms, thereby establishing the foundation for our seamless data integration. Over the past year, we have completed six additional mapping deliveries. DOD subject matter experts and the IPO conducted independent quality assurance reviews of these mappings to ensure their accuracy. Additionally, DOD has established a data governance process to actively manage and continually improve utilization of national standards as they evolve in the future. Further, virtually all clinically relevant data is now mapped to national standards, increasing the ability to share this information with many different health IT systems in use by our TRICARE network providers. In the “heart rate” example mentioned previously, both VA and DOD clinicians will now see a common, standardized name for a patient’s heart rate that can also be matched up with data from the private sector. Moving forward, we recognize that interoperability requires continual improvement. To this end, we plan to regularly update our data maps to further improve the portability of healthcare information between EHR systems.

We are leveraging our knowledge and expertise with the VA to exchange health information with our TRICARE network providers. Today, more than sixty percent of all service member, dependent, and beneficiary healthcare is provided outside a military treatment facility through TRICARE network providers. DOD exchanges its electronic patient health data with the public and private sector through its connection to the national e-Health Exchange. DOD is focused on deploying private sector interoperability to our military treatment facilities around the country that have an associated private sector Health Information Exchange (HIE) that is connected to the eHealth Exchange. DOD is currently connected to 11 HIEs, and is one of 109 participants in the eHealth Exchange. DOD plans to connect to an additional 14 HIE partners in the coming year, with additional HIE partners possible throughout the year.

Our service members overseas face unprecedented challenges in some of the world’s most hostile environments, and an important part of preparing our Soldiers, Sailors, Airmen and Marines to face these challenges is the reassurance that we are committed to taking care of them once they return home safely. It is incumbent upon DOD and VA to ensure that our clinicians have access to accurate and timely data to fundamentally and positively impact the health outcomes of active duty military, veterans, and eligible beneficiaries. DOD has a steadfast commitment to maintaining and enhancing our interoperability efforts. Interoperability requires continual improvement, innovation, and collaboration to ensure our users have the right information at the right time to provide the best healthcare decisions for our service members, veterans, and their families.

Goal 2: Modernize the Electronic Health Record (EHR) Software and Systems Supporting DOD and VA Clinicians

In addition, DOD’s acquisition of a modernized EHR system reflects our unwavering commitment to providing our community with the best healthcare tools available and to further our Departments’ interoperability efforts. In July 2015, following a robust open competition, DOD awarded a \$4.3 billion contract for a new EHR to a team led by Leidos that includes 34 other partners. At the core of this modernization is Cerner’s EHR, one of the most widely used and trusted EHRs on the market today, used in nearly 18,000 facilities worldwide. This contract was awarded without protest and ultimately resulted in significant cost savings over original estimates. When DOD established the DHMSM Program Office, the initial rough order of magnitude cost estimate was around \$11 billion. However, through the rigor of our competitive acquisition process, the cost estimate has been revised downward to less than \$9 billion today. Moving forward, we are continuing to look for ways to further reduce the cost of the program across its life cycle to provide maximum value to our service members and the American taxpayer.

The new EHR will support our military’s operational readiness by addressing the increasing demands across the spectrum of military operations and will be used in both garrison and operational environments. It will provide advanced healthcare decision support capabilities and will have the capability to integrate with medical devices and allow the use of mobile technologies to support our dynamic mission requirements. This will result in unprecedented patient engagement and promote user involvement for beneficiaries. Additionally, the product being provided by the Leidos Partnership for Defense Health (LPDH) can be configured to fit DOD’s evolving needs, eliminating the timely and costly process of customizing systems to various requirements.

As part of our acquisition strategy, we have just finalized our system hosting strategy. DOD has decided to initially host data for the new EHR in Cerner’s data centers. This decision allows DOD to take advantage of valuable proprietary Cerner health analytic and decision support tools and expands the population of calculable

healthcare data beyond DOD, leading to more accurate and meaningful analysis of healthcare trends. This ultimately aligns with the larger overall commercial-off-the-shelf strategy, pairing a commercial product with a commercial hosting solution.

The modernized EHR system will be rigorously and independently tested prior to and throughout deployment to ensure it meets operational requirements for effectiveness, suitability and interoperability with VA and TRICARE network providers. Testing will also ensure that the new EHR conforms to current DOD cybersecurity requirements under the Risk Management Framework, as required in the RFP, and that data is able to be securely shared across VA Trusted Internet Connection Gateways (TIC GWs), providing secure communication between VA and DOD networks. The system is currently undergoing contractor testing which is scheduled to be conducted from February 2016 through December 2016.

Our early engagement with industry reinforced the value of establishing a realistic deployment timeline that supports effective user adoption. Our aggressive timeline is consistent with similar EHR modernization efforts in the commercial industry. The program has tailored its acquisition strategy to streamline documentation and gain schedule efficiencies. We are committed to collaborating with industry and pursuing this modernization in a transparent and fair way that maximizes competition. As we speak, pre-deployment testing of the new EHR is nearing its end. In accordance with the NDAA, deployment is scheduled to start later this year at the Initial Operational Capability (IOC) sites in Washington State representing all three services. DHMSM leadership has completed the executive kickoff sessions at these locations to ensure all sites are fully prepared. Full Operational Capability (FOC), currently estimated for fiscal year 2022, will include deployment to medical and dental services of fixed facilities worldwide. Deployment will occur by region (three in the continental U.S. and two overseas) in 23 waves plus the IOC "wave." Each wave will include an average of three hospitals and 15 physical locations, and last approximately 1 year. This approach allows DOD to take full advantage of lessons learned and experience gained from prior waves to maximize efficiencies in subsequent waves, increasing the potential to reduce the deployment schedule in areas where it is smart to do so.

The biggest challenge to deploying this new EHR is not technology, but gaining support for our new business processes. Over 550 DOD experts across the Services have spent the past 5 months participating in enterprise product design sessions to review, update, and validate more than 750 workflows, 2,500 enterprise design decisions, 300 enterprise content sets, and over 450 enterprise order sets. Ultimately, the new EHR represents a fundamental business transformation within DOD, and the bulk of our work moving forward is making sure our end-users and the DOD community as a whole are prepared to begin using this system once it comes online. Throughout our history, each service has had the ability to develop many of their own processes and procedures, especially when it came to the delivery of healthcare. Now, for the first time ever, the new EHR will merge all of the unique workflows and business cultures throughout the Military Health System (MHS), creating uniform business processes and workflows across the Department that will encompass more than just documenting medical conditions and clinical interactions. The new EHR will also drive scheduling, registration, financial, and patient engagement. This will require over-the-shoulder training at over 1200 locations worldwide, making it incumbent upon our program to ensure all stakeholders understand the significance of this cultural change and are prepared to move forward with it when the time comes.

Conclusion

Chairman Cochran and Ranking Member Durbin, thank you again for the opportunity to testify today. DOD has taken very seriously its responsibility to provide first-class healthcare to our service members and their beneficiaries, and to enable the seamless sharing of integrated health records with VA and our TRICARE network providers. Looking forward, we will continue to improve data sharing efforts with VA and the private sector to create an environment in which clinicians and patients from both Departments are able to share current and future healthcare information for continuity of care and improved treatment outcomes.

The Department greatly appreciates the Congress' continued interest and efforts to help us deliver the healthcare that our Nation's veterans, service members, and their dependents deserve. Whether it is on the battlefield, at home with their families, or after they have faithfully concluded their military service, the Department of Defense and our colleagues at the Department of Veterans Affairs will continue to work closely together, in partnership with Congress, to deliver benefits and services to those who sacrifice so willingly for our Nation. Again, thank you for this opportunity, and I look forward to your questions.

Senator COCHRAN. Thank you very much, Mr. Miller, appreciate your cooperation and assistance to the Committee.

Let me now call on the distinguished Ranking Minority Member of the Committee, distinguished Senator from Illinois, Richard Durbin.

Senator DURBIN. Thank you, Mr. Chairman.

And Mr. Miller, let me join in the chorus of gratitude for your work over the last several months and whatever your future may be.

I don't think I have to ask because I believe being medical professionals we'd all agree that the use of tobacco is a negative thing.

If you have a person in your family or patient or a friend, you would counsel them, don't do it. You're running the risk of cancer, heart disease and a myriad of other medical challenges. If you're injured as a smoker, you're going to recover more slowly and there will be many complications in your life that can be avoided if you can avoid tobacco.

TOBACCO PRODUCTS

That would seem very obvious. And when we use the word readiness in every other sentence talking about our military, the obvious question is why is it that the rate of tobacco usage in the military is significantly higher than it is in the civilian population? It's about 24 percent overall, but in the military it's 32 percent, 32 percent, despite the fact that the men and women who come into the military and go through Basic Training, during that period of time are told, flat out, you cannot use tobacco products for weeks on end.

And that is the standard. And that is a rule. A rule which was lifted for reasons I can't understand when it came to AIT, Advanced Training. That was done about 10 years ago. Why, I don't know?

So the obvious question to our public health and health leaders in the military, why are numbers so bad when it comes to tobacco usage in our military?

Lieutenant General West.

General WEST. Thank you, Vice Chairman, for that question.

And I concur. As a medical professional I understand and believe, as I'm sure my colleagues here do, there is no minimum daily requirement for tobacco.

I don't know of any benefit at all for that to a person.

However, you know, as a medical advisor to my leadership, we continue to stress the need for healthy behaviors on all fronts and tobacco is part of that.

We have efforts on our healthy base initiatives, our performance triad and all those areas to try to improve the health and other aspects and tobacco is one of those. And we're pushing as health professionals, smoking cessation, abilities to——

Senator DURBIN. Is it working?

General WEST. Well based upon those numbers, you know, Senator, it appears not. But it doesn't mean we won't continue to try and redouble our efforts, maybe get after the cultural reasons why tobacco appears to be something that's, you know, that's in our military.

But as I mentioned, as a healthcare professional, it's my obligation to ensure that our senior leadership understands the negative impact that this has. This is, as you mentioned——

Senator DURBIN. A substantial portion.

General WEST. Absolutely.

Senator DURBIN. A substantial percentage of our military start smoking when they enter the military.

General WEST. Right.

Senator DURBIN. We're missing something here.

Why is the rest of the United States and many parts of the world catching on?

Vice Admiral, why?

Admiral FAISON. Sir, that's a question that vexes us as well.

I don't think you'll find stronger proponents of anti-smoking than the folks at this table. My secretary specifically has been an outspoken proponent of smoking cessation. I personally had a father who smoked and had lung cancer. So we're aggressively working on smoking cessation.

We don't have the answer to why people start when they enter the military. But I will tell you, our efforts have been aggressive in getting them to stop.

If you look at the numbers in the Navy, the numbers of folks that are actually smoke and use smokeless tobacco are actually on a downward trend.

Where we're having challenges right now is with E-cigarettes. And those, regrettably, are on the rise. We're trying to get after that and figure out why that is.

Senator DURBIN. I have one other question I mentioned at the outset.

We are asked, the Chairman and I are asked to sign reprogramming letters regularly and do them routinely. Along comes a reprogramming letter, two of them in fact, a few months ago to reprogram \$2 billion. And I said, what is this all about?

Well, it turned out to deal with compound pharmaceuticals. It is incredible what happened in our military. The amount of money being spent on compound pharmaceuticals skyrocketed from several hundred million to two billion dollars.

And then they took a close look and found out fraudulent pharmacies were using food trucks and other ploys to attract servicemembers near bases, sign up for a compound prescription you don't need and you get a free lunch. And we ended up passing along, literally billions of dollars for sometimes worthless compounds.

Now I'm told that everyone is aware of that and it's not going to happen again. Can you give me that assurance and tell me why I should trust it?

Either one. Anyone.

General EDIGER. Senator Durbin, yes, this was a very high concern issue for the Department of Defense last year. The controls that the Defense Health Agency put in place last year were very effective in terms of stopping this. But the behavior was absolutely fraudulent and reprehensible by those that were marketing this to our servicemembers.

And I would add that they were also marketing to our healthcare providers within our facilities. And we put a stop to that.

Most of the prescriptions that were being written for compounded drugs came out of the private sector. The few that came out of our hospitals we quickly got under control and those were instances where providers with the best intentions were trying to take care of their chronic pain patients and prescribing medications that would help but had no idea what these companies were charging the government for these prescriptions.

So we now have that under control. The DHA put in a process through express scripts by which all compounding prescriptions are reviewed before they are filled. And that's had a dramatic effect. And so we do believe that across the DOD we do have the controls in place now so that this will not recur.

TELEMEDICINE

Senator COCHRAN. The distinguished Senator from Missouri, Senator Blunt.

Senator BLUNT. Thank you, Chairman.

General West, let's talk first about the General Leonard Wood Army Community Hospital at Fort Leonard Wood. This was to be replaced originally in fiscal year 2016. I see it's now deferred again until fiscal year 2021. It's been 40 years since there's been any substantial reworking or rehabilitation of that facility.

Your predecessor, General Horoho, last year said that it was still the number one, top military construction priority. I know at a Senate hearing just a few days ago you talked about this hospital and the advances they were making in telemedicine.

I guess I'm just hoping for some reassurance that this isn't going to continue to get pushed forward. Not many alternatives for the active duty, the retirees or the families that are served by this hospital. And 40 years is a long time not to do much to a hospital.

General WEST. Thank you for that question, Senator.

And yes, I understand from General Horoho's commitment it was an honest commitment to placing that in the fiscal year 2016 as a number one priority.

My understanding is that that was due to budgetary constraints, you know, basically removed from that. It was reprioritized, not by the Army Medicine but other projects that were deemed to be more, you know, have a higher priority.

Senator BLUNT. Is it still the top medical military construction priority?

General WEST. For the 2017–2021, yes, it is, Senator. We put that back in. We have assurances that it is in the cycle. It's a, assuming no other, external requirements to remove that, we are committed to move that forward for our, for the fiscal year 2017–2021 cycle.

In the interim though, I want to stress that the—we were making sure that the current facility is, maintained and still, receiving upgrades.

In fact, just recently in fiscal year 2009 there was \$21.9 million spent on renovating and expanding the primary care clinic and several other initiatives to ensure that the current facility is maintained for, to provide safe healthcare, a high quality healthcare to

our beneficiaries while we're waiting for, the facility to be constructed.

Senator BLUNT. Well, we're going to continue, I hope you continue to keep an eye on it. It is a facility——

General WEST. Absolutely, Senator.

Senator BLUNT [continuing]. That serves a lot of people including lots of retirees and their families as well as families of those currently serving.

We're debating on the Senate Floor a bill on opioid and heroin abuse. In every set of figures I see, particularly veterans and veterans who are recently out of the military, have a higher level of muscular, skeletal pain, have a higher likelihood to have used opioids and a higher likelihood to still be dependent on opioids.

I'd like all three of you, any thoughts you might have on whether we're looking for other ways to manage pain, having any success finding non-opioid alternatives to manage pain.

And what are we doing to help those who serve so that whether it's a IED attack or a training accident or just the wear and tear of full time service, that they're having the pain they're having because of their service to us and this doesn't need to be a prolonged thing, hopefully after they leave the military that they not continue to really suffer from the pain, or the addiction that they have received, at least from the pain medicine.

Let's start, General Ediger, with you.

General EDIGER. Yes, Sir.

In the Department of Defense we have a pain management strategy. And each of services have established pain management services and clinics in our hospitals. And I know in the Air Force we are actively pursuing the addition of more integrated medicine capability to the way we practice.

And so we have a very active acupuncture training program in progress. And we've trained almost two thousand clinicians in terms of use of acupuncture and other integrated medicines, tools, are being evaluated for implementation.

And the interest here is on helping servicemembers find a way to manage pain without necessarily depending on the use of opioids to do so.

We know there is a place for opioids and they should be used judiciously but we know that there are a lot of other tools we can use in pain management in order to give them an effective way to move forward with their lives without the high concern about opioid dependence.

Senator BLUNT. Admiral, do you have anything to add to that?

Admiral FAISON. Yes, Sir.

We also, in the Navy and the Marine Corps, are very concerned about pain management, therefore we invested heavily in this. We have established comprehensive pain management services in many of our larger facilities to include putting physicians through pain management fellowships and established telemedicine capabilities for our smaller facilities for consultation for patients with pain.

So we've worked on this very hard to provide a safety net of educated providers who can manage pain successfully.

In addition, we have ongoing education programs for not only physicians, but our nurses and others in pain management and alternatives that we routinely use. Many of our pain management patients are case managed and we're blessed with electronic systems that allow us to look at the medications that a patient is on. If it's paid for by the Department of Defense it shows up in our systems, we routinely review those as part of case conferences.

Finally, we've invested heavily in Alternative Medicine. We have trained over 100 providers in complementary and acupuncture and other alternative therapies, allowing us to position those teams in places where there is high demand. As a result of our efforts, we are seeing a downward trend in our need to use opioids or other pain management medications.

Senator BLUNT. General, I assume your answer is similar and I'm out of time.

But this is an area that, obviously, the Congress is very attentive to. We made a big increase in the amount of money available to these programs last year. And now giving more direction, legislatively, to it and too many of our veterans are impacted and too many veteran suicides involve opioids and heroin and we need to stop this.

Thank you, Chairman.

Senator COCHRAN. Thank you, Senator Blunt.

The distinguished Senator from Maryland.

Senator MIKULSKI. Thank you very much, Mr. Chairman, for holding this hearing on the Department of Defense Health Program Appropriations request.

It's one of my favorite hearings because it goes right to the heart of the active duty military, the retired military and their families. And we hear how this benefit is one, essential to meet our obligations to those serving and in the line of fire and then their families. You don't only send someone to war, there are families involved as well.

And so we always look forward to hearing what they're doing and how we can help them but do it effectively and have meaning in the lives of our people.

I want to thank you all for your service, for what you do every day in terms of ensuring this delivery of service. And Mr. Miller, you too, have been in, kind of, your own line of fire with the mine fields of interoperability.

Mr. Chairman, we're very proud of military medicine in Maryland. We're the home to Walter Reed Naval, Bethesda and anyone who hasn't visited I really encourage you to come and see this spectacular institution meeting the needs of our military. It's the home of a medical school uses. Admiral Faison, you served there.

And we also have our relationships, like with the Air Force residency program, where we use institutions in our State, the University of Maryland Shock Trauma involved with you and the Air Force's surgical residency program and they're delighted with it.

And also when we look, Fort Detrick that does very important research in protecting us from biological and chemical warfare and then also helping with other research activities too classified to talk about here. And then it's work in extramural research.

We're so pleased that Johns Hopkins was able to get a grant to do something that was almost like a moon shot in the survival of amputees in which they actually, gentlemen, did a limb transplant to a military man, Brian, who lost both arms. And they did limb transplant. This man has the use of his arms. He has the use of his hands. He might not be able to play a concerto, but he can play ball with his child and he can be involved in the workforce. He can feel like a human being and live fully.

And it was important not only for those who bear these permanent wounds of war, but the research also showed he didn't have rejection, you know, the whole thing about a transplant is the whole drug regime.

So we're really proud of what goes on there. And I want to thank you because I think it accrues to our military population and our civilian population. So we want to thank you for what you do and don't forget Maryland when I'm not here.

So, but also, you know, just the volume and velocity of 55 hospitals, 360 clinics, 147 employees. It's just amazing what you do.

But let me get to my questions. It goes to readiness and resiliency, readiness and resiliency. And that's what you all talked about.

I was so pleased to hear that you're using complementary modalities and integrative health and would like to encourage you.

HEALTHY BASE INITIATIVE

Well let me get to where I think the military and their families should be well fed. I feel like I'm at war with the DOD budgeteers over the shrinking of commissaries. My question to you is this. Are you aware that they're trying to cut the commissary budget that nobody is paying attention to something called the Healthy Base Initiative?

Are you aware of that?

General West, are you? You are.

Admiral.

[Heads nod.]

Senator MIKULSKI. And with Jessica Wright going it's kind of wandering in the wilderness.

This initiative is twofold.

One use the commissary to introduce fruits and vegetables, also to be able to enable the commissary to do things like farmer's markets which my garrison commander at Fort Meade tells me has been really a building where Officer Corps and Enlisted Corps and so on across the ranks are mingling.

And then also the way you change you feed active duty military. Nobody wanted to eat at Fort Meade until they had the Healthy Base Initiative. They were serving liver and onions at like three o'clock in the afternoon and wondering why was everybody running to Burger King.

So what do you think? Don't you think the Army runs on its stomach and the Army, the military, ought to help them. And could you all mount a battle with the budgeteers and help out these families?

General WEST. Absolutely.

Senator MIKULSKI. And how are you going to say no on this. I mean——

[Laughter.]

General WEST. Absolutely. That's right. Absolutely, Senator.

And I appreciate your efforts of ensuring that Fort Meade, along with Bragg and Fort Sill, which are the other installations that in the Healthy Base Initiative. And absolutely, there were some initiatives just to change the placement in our dining facilities, putting salads up front, putting more healthy foods closer so you had to pass by them before you got to some of the more unhealthy choices really made a difference and the selection of more healthy choices.

So just placement and all those initiatives ensuring that on our installations.

Senator MIKULSKI. I know what they do.

General WEST. Right.

Senator MIKULSKI. I'm afraid that it's not going to survive.

Are you aware that in the budget they're cutting commissaries again?

General WEST. I'm not aware of the specific cut. I know that was something——

Senator MIKULSKI. Well I say that really to the three of you, okay?

And commissaries in some ways are a nutritional settlement house.

General WEST. Yes, so we——

Senator MIKULSKI. You're nodding your head. Admiral.

Admiral FAISON. Ma'am, I was not aware of the commissary initiative. I will tell you with Healthy Base Initiative, though, we have taken the principles from that and exported that across our Navy.

In our Navy, on ships, we have a long tradition of what are called sliders. They're burgers. We've replaced those.

Senator MIKULSKI. Oh, I know what a slider is.

Admiral FAISON. Yes, Ma'am. So, we've replaced the sliders.

I personally just made a video this week on the importance of activity and proper eating and things like that. We're taking those initiatives and exporting those across the Navy and the Marine Corps because it does lead to better health. Obesity is a challenge in our Nation right now.

Senator MIKULSKI. But it is about readiness and prevention.

Admiral FAISON. Exactly. Yes, Ma'am, absolutely.

Senator COCHRAN. Senator, your time is expired.

General EDIGER. Yes, Senator, we are aware that there have been discussions in terms of the commissary benefits and the changes to that in the interest of saving costs.

Through our health promotion programs, we are focused on anticipating how we can better deliver information and knowledge to the families that we support in terms of healthy nutrition understanding that where they actually purchase their food may change over time. But we agree the commissary is a great opportunity for us to deliver information and encourage families in terms of healthy choices.

Senator MIKULSKI. Check it out and help me out.

My time is expired.

And thank you, once again, we love you in Maryland and we love what you do every day to help our military and its families.

Senator COCHRAN. Thank you, Senator.

And the distinguished Senator from Montana, Mr. Daines.

MISUSING PRESCRIPTION DRUGS

Senator DAINES. Thank you, Mr. Chairman.

And I extend a very warm welcome to you today. Thank you for your dedication to the health and safety of our servicemembers. It's very much appreciated.

This week on the Senate Floor we're debating the Comprehensive Addiction and Recovery Act. As you know, members of our military and veterans are not immune to the substance abuse disorders that impact the rest of our Nation. This is also a serious issue in Montana.

The VA cites that about one in five veterans have PTSD, also have a substance abuse disorder.

And according to the latest Department of Defense survey, 11 percent of active duty servicemembers reported misusing prescription drugs which is up significantly over the past decade.

I introduced a couple of amendments this week to highlight that and to open up more treatment options for those who have served our country. But I think the impact the substance abuse is having on our Nation is a sign that it's going to continue being an issue for us, for our servicemembers, for the foreseeable future.

So my question, maybe we'll start with General West, what trends are you seeing right now with substance abuse and members of the military?

General WEST. Mr. Senator, our substance abuse, it's, you know, one person or one family member abusing substances is too many for us. The trends that we see, I'll have to get back with you for the exact numbers of where we are on that, but we do have programs to address that with our beneficiaries, our active duty servicemembers and our beneficiaries.

[The information follows:]

The primary reason for Active Component Soldier enrollments in Army Substance Abuse Program rehabilitation is for alcohol and substance use disorders. Drug and Alcohol Management Information System (DAMIS) data for fiscal year 2011–2015 shows that 75 percent of Soldier enrollments for treatment in fiscal year 2011 were related to alcohol issues increasing to 79 percent in fiscal year 2015. 27 percent of Soldier enrollments were for substance abuse in fiscal year 2011 decreasing to 21 percent in fiscal year 2015.

According to DAMIS data, the rate for drug positives by Soldiers has decreased across all Army Components from fiscal year 2011–2015. Drug positives include prescription drug abuse and illicit drug abuse. The rate of drug positives for Active Component Soldiers decreased from 1.01 percent in fiscal year 2011 to 0.86 percent in fiscal year 2015; for Army National Guard Soldiers the rate decreased from 2.55 percent in fiscal year 2011 to 2.07 percent in fiscal year 2015; and for the Army Reserve the rate decreased from 2.15 percent in fiscal year 2011 to 1.71 percent in fiscal year 2015.

BEHAVIORAL HEALTH

General WEST. In order to address the behavioral health reasons sometimes that lead to that, we have increased our behavioral health assets to help address, not only with our servicemembers,

but our families, any issues that they may have that would lead to that.

We have embedded behavioral health with our units to make, you know, seeking help for behavioral health reasons or seeking help less stigmatized by ensuring that they have access in their unit areas to professionals that can help, at least be the first line of them reaching out and discussing any issues that they may have.

So ensuring that we have enough assets to allow them access to, as a first step in, in ensuring they have access to that is one of the things that we do.

We also have treatment programs, you know, outpatient treatment programs, intensive inpatient programs, depending on the nature of the addiction.

Senator DAINES. Right, thank you. And I just, based on what we're seeing around the country this has got to be one of those trends that we want to try to get out in front of as best we can, particularly for our servicemembers. But thank you for that answer.

One of the other complaints I'm hearing as I travel across Montana and hearing from our veterans is the problem of the medical records, medical records transferring to the VA. Something that should be a seamless transition somehow turns into veterans going months, even sometimes years without having the medical records from their time in service.

I know that DOD has been working to provide seamless, integrated sharing of health data among DOD, VA and the private sector. But I'm concerned about how long this is taking, as well as how much this is—how much it costs.

In 2013 the joint single integrated electronic healthcare system was abandoned and now we're on a current \$11 billion program, the DOD Healthcare Management System Modernization Program. I spent a lot of years in the software business and always get a little nervous when you see folks walk in with expensive suits and shoes here running the meter at very, very high levels and how that can run price tags up as well as schedules getting missed, delayed or projects fail.

My question, Mr. Miller, how is this new program actually going to solve the problems with medical records of our active duty men and women who are transferring to the VA once and for all.

Mr. MILLER. Thank you very much, Sir.

A couple quick comments there in the life cycle estimate of our programs are actually not \$11 billion anymore. Competition works, as you probably well know, Sir. Where our estimates are now between fiscal year 2014 and fiscal year 2032 is roughly somewhere between \$8.6–\$8.7 billion. And so we're—we continue to apply pressure, moving the direction the right way.

As far as our electronic health records, you know, I think, it's a couple things we need to recognize.

One is that we deal with information that spans decades here. So depending on who you talk to, Sir, and who you engage with, you can find yourselves with very different situations.

I will give you a personal experience. My father was an Agent Orange pilot in the Air Force. He's trying to file a claim with the

VA right now. He has nothing. And so, you know, we're trying to work and trying to work with the American Legion and some other people to help there.

But at the same time I could show you a veteran that's leaving today and his information is electronically at the VA before he ever leaves. I could give you a demo anytime, Sir, in your office, wherever you'd like to see it. And we can show you where that information is seamlessly flowing.

So I think it's important that we recognize not all of our information that supports those decisions is electronic today. But as we get more and more of our population in a fully electronic way, we will continue to improve that.

Senator DAINES. Well, I'm pleased to see it's gone from \$11 billion down to \$8.7 billion. It's obviously still very much real money.

I guess and I need to wrap up here, but what—how do we make sure that we don't run into the same problems with this next phase we're going into versus what happened in 2013?

Mr. MILLER. Yes, Sir.

So on that point I would say, you know, I tell people successful programs come down to three things.

It comes down to the people.

It comes down to the tools.

And it comes down to our processes and how we want to use these things.

And so what I tell everybody is with a big program like this you have to, kind of, get back to basics.

We have to make sure we get our requirement right. And that's why the Surgeons up here are personally all involved.

We have to make sure that our people are ready. And that's where we engage them. We have to have an effective communications and change management programs.

And we have to make sure the tool is actually working correctly and is ready to go.

And so, we have very much a very aggressive strategy. And we have spent a lot of time learning from many failed projects. I could go down a list of people we've talked to and learned from. I don't want to recreate those. You know, we are trying to learn from those as well as some of our previous experiences in the DOD with some of our previous efforts there.

So it takes a concerted effort. There's not a magic recipe. But I think it kind of gets down to some basics of good project management and running an effective program.

Senator DAINES. Thanks, Mr. Miller.

Senator COCHRAN. Thank you, Senator.

The distinguished Senator from Hawaii, Mr. Schatz.

Senator SCHATZ. Thank you, Mr. Chairman.

Thank you all for your work, for your commitment to public health among our servicemembers.

General Ediger, my question is following up on Senator Durbin's line of questioning regarding the \$2 billion in overbilling for compound pharmaceuticals.

And something caught my ear that you said. You used the word fraudulent. And I'm wondering, it seems to me, it's not sufficient

for this Committee or for the taxpayer to say that this won't happen again.

If you believe that these were improperly done do we have a remedy to recoup some portion of that money spent? Is the IG (Inspector General) involved? Is GAO (Government Accountability Office) involved? What is our remedy?

General EDIGER. Sir, it's our understanding the Federal Bureau of Investigation (FBI) is involved and there have been arrests and there have been charges filed. And so, it is being handled as a criminal manner in many cases.

Senator SCHATZ. Anything to add from the other Surgeons General?

Admiral FAISON. That's our understanding as well, Sir.

When we asked about this, we understood there were dozens of fraud investigations going on, being managed with the FBI and our own criminal investigative services to both, go after these folks and to recoup the money.

COMPOUNDING PHARMACY

General WEST. And one other comment just to ensure that there's vigilance and this doesn't happen again, my understanding also is that now there are processes in place where if new compounds, because there are always attempts to try to get at seams and go around loopholes.

So they're, actually the pharmacy community, is monitoring any new medications that come online and that there seems to be a price differential of a certain compound that's within or a certain chemical within the compound, they'll actually alert, make sure that it's not outside of the normal range of prices and then actually, tamp it down before it gets too far out of hands.

So there's multiple layers to try to prevent that from happening again.

Senator SCHATZ. Thank you.

And we'll just go down the line starting with General West on this question.

You know, I know you've done a lot of work on destigmatization of mental illness and I know that you've done a lot of work in terms of staffing up and increasing access. And I think those are the two most critical aspects.

But there is this unique problem, I think, in the military concerning readiness and you have to strike the balance in terms of encouraging an individual servicemember to avail themselves of mental health services but also you've got to make hard nose decisions about readiness.

MENTAL HEALTH STIGMA

So take a pilot who says they're experiencing service connected anxiety and then the commander officer, wants to provide that person with the mental health services they need and you don't want to discourage anybody from availing themselves to those services. But they know that they may be deemed, as a result, not ready.

And so, I'm wondering, whether you have well-articulated policies, if this is, sort of, game time, decision-making at the CO level. How do you strike that balance because it seems to me, I come

from a mental health services background so I want to destigmatize mental health as health?

On the other hand, I know how tough these choices are if you're determined—you're determining whether someone is actually ready to fight. And so how do you strike that balance?

General West.

General WEST. Sir, thank you for that question. And I think it's really important because we invest a lot, quite a bit, to train all of our soldiers. And I know my colleagues with their various specialties.

So we want to make sure that we provide care up to the point where we don't lose that asset because we say that you don't want to conserve. So we will provide whatever treatment that's available to ensure that we can keep them in their particular MOS (Military Occupational Specialties) because they're all valuable members of the team.

Senator SCHATZ. But doesn't it go into the servicemember's file, sort of, concurrently? In other words, you really are running the risk of being, not ready for a promotion, not ready to fly.

Am I misunderstanding how this works?

General WEST. Well, there are some—there's policy change as far as what people are asked to put on their security clearances because that's another thing individuals are concerned about; any reporting might get viewed as a way to not have them progress to the next level or be considered for important jobs.

But we've changed policy on asking questions on security clearance making sure that we don't broaden it too much so we miss things that are very concerning but at least people that have gotten grief counseling, for example, or things that are normal being a human being what you need to do.

We also have our senior leaders in the Army, I know, and there's other services that have actually come forward, put public service announcements where they have actually sought behavioral healthcare. We've had flag officers, general officers, that have done that to help, destigmatize it for their—

OVERPRESCRIBING OPIOIDS

Senator SCHATZ. Thank you.

And I want to ask one final question in my remaining seconds, yes or no, for each of the Surgeons General.

In your professional opinion are we still currently overprescribing opioids, yes or no?

Admiral FAISON. Sir, I don't think we are.

The investments we've made in other programs, I think, have allowed us to get off opioids.

General EDIGER. Sir, I would say not in the direct care system.

Senator SCHATZ. Right.

General EDIGER. Within our hospitals and clinics I believe we are using the full range of options.

Senator SCHATZ. General West.

General WEST. No, Sir. I do not believe we're overprescribing it. We've got other alternative therapies that we're using now in adjunct.

Senator SCHATZ. Thank you.

Senator COCHRAN. Thank you, Senator.
Let me ask a couple of questions.

MEDICAL RESEARCH

General West, the Committee has consistently recommended funding for medical research, for instance in the fiscal year 2016 Defense Appropriations Bill Congress appropriated more than \$1.9 billion for medical research, which was a 5 percent increase over fiscal year 2015 levels.

Can you give the Committee any examples of how this medical research funding has contributed to breakthroughs or positive outcomes that benefit our servicemen and women and society as a whole?

General WEST. Senator, thank you for that question. And we have, I mean, there are a myriad of benefits that have come from our research and our team at Fort Detrick that the Senator mentioned that have directly contributed in every area.

One of the ones that we can talk about is regenerative medicine, our advances in trauma care, our advances in infectious disease research, for example, malaria. We're actually participating with our interagency colleagues on providing advances in, determining or developing a vaccine for the Zika virus which is currently on now. Cancer research, ALS, TBI, there are so many.

Senator, are there any areas that you'd like me to focus on that you'd like to hear about, in particular?

Senator COCHRAN. We'll submit those for the record.

General WEST. Yes, Senator, we'll submit all of those for the record.

[The information follows:]

Research and development funded by Defense appropriations has made a profound impact on healthcare and quality of life for Service-members, Veterans, and society as a whole. Numerous breakthroughs and products have been incorporated into practice and/or improved clinical care along the entire spectrum from prevention, detection, diagnosis, treatment, and rehabilitation. Examples of prior DOD appropriation supported breakthroughs for both injured Service members and the general population include advancements in novel diagnostics and prognostics, improved treatments and therapies, and better rehabilitation strategies.

In the area of novel diagnostics and prognostics, the Ahead® 100/200 and EYE-SYNC systems offer portable and rapid assessment of traumatic brain injury. CareGuide™, a portable sensor system, was developed for detection of internal bleeding. OVA1™ is the only Food Drug Administration approved blood test to help determine if an ovarian mass is malignant prior to surgery.

We have improved treatments and therapies for a number of diseases. Due to DOD-funded research in Prazosin, there is now an evidence-based treatment option for combat trauma nightmares and daytime hyperarousal symptoms. Symptoms-based treatment with Coenzyme Q10 is successfully being used for Veterans with Gulf War Illness. The Elekta Synergy system revolutionized image-guided radiotherapy for prostate cancer. Additional new drug, device, and immunologic therapeutics are currently in clinical trials and advanced development for Amyotrophic Lateral Sclerosis, spinal cord injury, wound healing, infectious disease, neurofibromatosis, many cancer types, psychological health, and trauma care. Standard of care drug treatments were developed for patients with breast cancer (Herceptin®; Ibrance®) and prostate cancer (XGEVA®; XTANDI®; ZYTIGA®, VELCADE®).

In the area of rehabilitation, the Embrace® Bandage is a wound dressing that can significantly reduce scar formation. Kickstart™ is a novel orthosis device used to improve mobility and walking. Force Limiting Auto Grasp is a device to enhance prosthetic gripping capability. BrainPort V100/V200 is a non-surgical assistive device that provides visual information through sensory substitution. Several other

products have been incorporated into practice or are in advanced development for orthopedic, spinal cord, vision, and other traumatic injuries.

General WEST. But all the research is, has contributed, not only to our readiness, but also to benefit our civilian population as well.

I can give you one example, if you like, on ALS research.

Some question why do we do ALS research in the military. Well, we found that the military members have a 60 percent higher rate of having ALS than the civilian population. And the research that was conducted in that area actually leads to other research for, that's collateral for other areas, traumatic brain injury, other neurological advancements.

So that's just one example of how the research is done in our military at MPMC, for example, is transportable to, not only our civilian population but also directly related to operational readiness of our servicemembers and family members.

Senator COCHRAN. Well, we appreciate your leadership in these areas.

General WEST. Thank you.

Senator COCHRAN. Very important.

General WEST. Thank you, Sir.

The distinguished Senator from Alaska, Ms. Murkowski.

Senator MURKOWSKI. Thank you, Mr. Chairman.

I apparently came in just at the right time, Chairman, as you were speaking about that.

MEDICAL RESEARCH

Major General West, I appreciate you specifically highlighting the ALS research and the advancements that have been made. This is an issue that I have been greatly interested in and focused on. And recognizing that the VA regards ALS as presumptively service connected, I think, really make sure that there is this focus to better understanding how and why and what we deal with it.

I appreciate the efforts that have been made. Some have suggested, wait, we don't see what the connection is here and why it should be funded through the Department of Defense. So I appreciate you specifically highlighting that.

Last year this Subcommittee allocated \$10 million for the ILS—ALS research program that was cut back then to \$7.5 million in the Omnibus. In your judgement are there a sufficient number of meaningful research proposals to support funding for ALS research in excess of the seven and a half million?

General WEST. Yes, Senator. There are, right now, there have been 35 awards to different institutions to assist with research in that, determining if there are genetic biomarkers, preclinical development of therapeutics. I mean there is a wide range of areas that those research dollars are, could be used for.

Senator MURKOWSKI. Good.

General WEST. So there are multiple, very well vetted, to make sure they're scientific sound inside the scientific merit to ensure that there's use for these funds.

Senator MURKOWSKI. Good.

Well I appreciate that and just appreciate what you do there. Know that you've got a real advocate in me working to try to help

advance some better understanding of this just horribly insidious disease.

You know, when we think about the costs that we're putting into the research here, it's miniscule in terms of the care for the individual as they live and unfortunately die with this extraordinarily debilitating disease. And so those that would question the costs, I think, need to look to just the full brutal impact of this disease and the cost to the individuals and their families.

General WEST. Yes, Senator.

Senator MURKOWSKI. Let me switch topics here and it relates to Alaska because we always think of Alaska as being that cold place. Right now it's not as cold as we would want, but we recognize that our soldiers, our men and women, when they experience harsh winter environmental conditions such as we have in the Arctic that it can be very challenging physically and health wise.

COLD WEATHER

What cold weather research efforts would benefit our soldiers conducting Arctic operations?

I'm specifically interested in cold weather research efforts from the U.S. Army Research Institute of Environmental Medicine.

I was with several of our military leaders at a social event and the discussion was about how in a cold weather environment simple tasks like writing a note are almost impossible. That pen that you are holding, Vice Admiral, you wouldn't be able to get it out of your pocket. You'd have to take your gloves off.

If it's 50 below, holding on to that pen is difficult in the first place, much less getting a pen to work in 50 below, not that we're talking about the operational capacities of a pen. But just recognizing the challenges that present in cold weather environments.

Can you speak to some of the research that's going on?

General WEST. Yes, Ma'am.

And thank you so much for identifying those great professionals at the U.S. Army Research Institute for Environmental Medicine for what they're doing. Those scientists there are world class, world experts, over 120, research projects and papers have come out of that, those scientists from that unit.

Some of the projects that they're working on is, just as you mentioned, Senator, increasing the blood flow to the fingertips, the digits, so you can increase the dexterity and decrease the, the lack of it for medics, for example, having the fine dexterity of the fingers is very important. And so the research is how do we increase blood flow to the digits?

Also, areas of how do we increase thermal comfort in those environments where it's zero degrees by increasing, facial warming, forearm warming. So there's several research projects that are going on to determine how to mitigate the physiological effects of cold weather.

It also informed the types of cold weather gear that might be available to our soldiers and our servicemembers, all of them that are asked to serve in those and work in those environments.

So, again, quite a bit of research. And as I mentioned, over 120, great information to add to the literature to improve that.

Senator MURKOWSKI. Well, it's vitally important.

As we look to, again, changes in the Arctic, recognizing that in terms of different threats coming at us. Great deal more attention being focused on Russia right now. Russia also has some very Arctic like conditions and is an Arctic nation as well. So recognizing that we need to be more cold weather capable and an understanding from a research perspective is important.

I'll just note for the Chairman's edification coming from the South here, right now one of the ways that if you're a snowmachiner and you want to keep your face from getting frostbit and you've got a little gap in your helmet and your goggles, not very high tech, but it's duct tape that you put to your face. Works, but taking it off afterwards, I don't know.

[Laughter.]

Senator MURKOWSKI. So if we can improve on some of these technologies, I think that it would be much more comfortable for many.

But thank you for what you do in your various capacities. We know that these advancements in research whether it's medical research, like finding a cure or a treatment for ALS or what we're doing in better understanding dealing with cold weather environments. This helps, not only those who are serving our country, but everyone, everywhere.

So we appreciate.

Thank you, Mr. Chairman, for allowing me to jump in.

MEDICAL RESEARCH

Senator COCHRAN. Thank you, Senator Murkowski, for your leadership on these issues and your contribution to the debate, and the providing of needed support for drugs that can be used for malaria, for example.

We understand that some of the research that's being done has uncovered problems that were not readily understood, such as malaria prevention and treatment. I wonder if the side effects of drugs for malaria are limiting their safe and effective use in some populations. And if so, what efforts are being made by the Department of Defense to develop new and safer drugs to reduce side effects?

General West, is that something you are familiar with?

General WEST. Yes, Sir.

Again, I appreciate the question.

Our great team at the Medical Research and Material Command at Fort Detrick are involved as well as I know there's efforts with our other service colleagues on looking for other counter measures for vaccines, also for malaria, as well as just the traditional, the permethrin impregnated uniforms, the vector control and then the other counter measures, with tented nets and tentage.

But there is research on anti-malarial drugs because, as you mentioned, the side effects that some cannot tolerate. And so we definitely are involved and also with our other nations and labs overseas that are collecting the vectors to see how we can come up with a different—with additional countermeasures and drugs for that.

Admiral FAISON. Yes, Sir.

Our focus has been very much on vaccine development. We have three clinical trials going on right now at our research labs. One with sporozoites of falciparum which is the worst kind of malaria.

We're doing clinical trials that's a direct venous inoculation. We've got another clinical trial that we're doing in partnership as a backup.

And then we just finished clinical trials with the Bill and Melinda Gates Foundation to look at malaria vaccines.

That's the gold standard that we'd like to pursue.

In parallel we are working very closely with the pharmaceutical industry to look at side effect profiles of the current drugs that we've got to minimize those.

Very active efforts right now.

ADDITIONAL COMMITTEE QUESTIONS

Senator COCHRAN. Thank you, Admiral and thank you, General. We appreciate so much the work of the members of this panel. And our Committee is going to continue to pursue information that we hope will be helpful in the process.

Senators are authorized to submit additional questions for the record. So we would request that you respond to these within a reasonable time.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO LIEUTENANT GENERAL NADJA WEST

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

TRAINING FOR MILITARY ORTHOPEDIC SURGEONS

Question. How many surgeries do military service members (active and retired) and their family members undergo annually?

Answer. The total number surgical procedures performed for Army beneficiaries for fiscal year 2015 was 306,934. Of these, 102,435 were orthopedic procedures.

Question. What is the annual cost to the Military associated with these MSK injuries both direct cost (i.e. medical care) and indirect cost (i.e. costs associated with disability and separation from service)?

Answer. For fiscal year 2015, the Army had over 48,700 inpatient and outpatient orthopedic patient encounters related to musculoskeletal injury. These included patient interactions for sprains, strains, joint disorders, fractures and dislocation of limbs or hips, as well as, surgical procedures, outpatient surgery, and outpatient visits. The total Army Defense Health Program costs attributed to musculoskeletal injury was \$426.8 million in fiscal year 2015. Direct Care costs were \$145.3 million and Purchased Care costs were \$281.5 million.

Further analysis is required to determine indirect costs for musculoskeletal injuries, such as costs associated with disability and separation from service. The Army will provide this data as soon as the analysis is completed.

Question. Please provide any additional data that further establishes the significant impact that sports related injuries/MSKI have on the Department of Defense and its military readiness.

Answer. MSKI and MSKI-related, chronic musculoskeletal conditions greatly impact the Army in terms of Soldier and unit readiness, healthcare costs, and attrition. In fiscal year 2014, MSKI-related, chronic conditions resulted in 7710 disability discharges, accounting for 54 percent of all disability discharges among active duty Soldiers.

BREAKTHROUGHS THROUGH MILITARY MEDICAL RESEARCH

Question. During the hearing, I asked about breakthroughs that have come as a result of military medical research. I let you know to expect questions for the record regarding breakthroughs for specific research categories. How has military medical research contributed in the following areas? Prostate cancer, lung cancer, spinal cord injury, multiple sclerosis, and influenza.

Answer. The military medical research funded through the Congressionally Directed Medical Research Programs has provided breakthroughs and new knowledge that has changed the practice of medicine for both the military beneficiary and civilian healthcare communities.

The Prostate Cancer Clinical Trials Consortium has rapidly advanced 13 therapeutic candidates to phase-III clinical testing, including 2 FDA approved drugs, Zytiga® and Xtandi®, which have become standard of care for the treatment of advanced Prostate Cancer.

The Lung Cancer Research Program established the Detection of Early Lung Cancer Among Military Personnel Clinical Consortium, which is designed to develop and improve the early detection of lung cancer among military personnel, military family members, and Veterans believed to be at high risk for developing lung cancer. Two clinical studies have been initiated. The first is focused on validating a number of airway and blood-based molecular biomarkers that can distinguish benign vs. malignant lung diseases among smokers with indeterminate pulmonary nodules found on chest Computed Tomography. The second study is looking at identifying molecular biomarkers of preclinical disease and disease risk in minimally invasive and non-invasive biospecimens to improve lung cancer surveillance in high-risk individuals.

The Spinal Cord Injury Research Program developed a wireless, implantable neuroprosthetic device to normalize bladder function after spinal cord injury. Funding also supported development and testing in a rat model from proof-of-concept to beginning of preclinical testing for submission of an Investigational Device Exemption to the FDA. Advanced development work is being supported with funding through the Joint Warfighter Medical Research Program.

The Multiple Sclerosis Research Program developed a functional MRI method of passively mapping brain function in pediatric study participants. The program also developed a promising new technique/tool for the clinical setting by combining advanced MRI techniques with high resolution PET imaging, and demonstrated that the degree of inflammation detected in the cortex of Multiple Sclerosis patients is related to neurological disability and impaired cognition.

Influenza research support in the fiscal year 2014 Peer Reviewed Medical Research Program funded a \$9.5 million Focused Program Award under the Respiratory Health topic area entitled "Anticipating Influenza Resistance Evolution (AIRe): Pathways and Strategies." Establishment of this program is anticipated to provide technical innovations to increase surveillance speed and guidance on the best effective treatments for circulating influenza strains and complement the DOD's Global Emerging Infectious Surveillance and Response System which monitors influenza at 500 sites and 70 countries. Also, the military laboratories conduct influenza surveillance in both CONUS and OCONUS. These efforts have led to the detection of novel influenza strains (e.g., Pandemic H1N1 in 2009) and annually contribute data toward the selection of influenza strains for the seasonal influenza vaccine formulation. The influenza serology core lab at the Naval Medical Research Center supported a Phase 2 clinical trial to evaluate the safety and efficacy of high-titer anti-influenza convalescent Fresh Frozen Plasma (FFP), which demonstrated impressive reductions in morbidity and mortality in patients with severe influenza and initiated a Phase 3 trial. Should the Phase 3 study validate earlier results, a new indication for FDA-regulated FFP will be sought to allow for the rapid production of a low-cost, effective anti-influenza therapeutic for severe seasonal and pandemic influenza.

QUESTIONS SUBMITTED BY SENATOR BRIAN SCHATZ

Question. Since 2000, there have 177,000 reported incidents of PTSD. That is roughly the size of the Marine Corps. We have made a lot of progress to help those who are suffering find treatment options that work for them. One promising area involves specially trained service dogs. Senator Al Franken worked hard to provide the VA funding for clinical research. I know the VA is currently conducting research to see whether service dogs can provide therapeutic relief to those suffering from PTSD. The Defense Health Agency is also researching this under the Therapeutic Service Dog Training Program, in part as result of interest from this committee.

Can you offer your medical opinion on what opportunities and potential challenges these service dogs could create as we explore treatment options for these individuals?

Answer. The U.S. Army and U.S. Army Medical Command (MEDCOM) support the use of evidence based treatment for PTSD and other medical conditions. MEDCOM continually explores new technologies, modalities and adjunct treatments, including Animal Assisted Therapy and Animal Assisted Activities, to deter-

mine their value, quality and safety. While various initiatives, that include animals, have not yet yielded definitive outcome data, the Army remains interested in the impact of these animals on the function and well-being of Soldiers and other beneficiaries.

Question. Over the last several years, we have refocused our attention on the threat of emerging infectious diseases and the risks that they pose to public health. Men and women in the military often find themselves in these hot zones where emerging infectious diseases are endemic. In the Asia Pacific, for example, malaria, dengue, TB, and other emerging infectious diseases pose a risk to our soldiers, sailors, airmen, and Marines in the region, whether they are stationed there or are supporting theatre security cooperation exercises. And while we can protect them from some of these diseases, some of the diseases we cannot—at least not yet.

What are we doing to reduce the risk that service members face from diseases where there are no vaccines or other protections?

Answer. The Army continues to invest in the surveillance, research and development of emerging infectious diseases across the globe. The military collects and scientifically characterizes these infectious agents, screens for potential available treatments and studies new approaches for prevention or treatment.

The Army ensures deployed units issue and monitor the use of Personal Protective Equipment, such as, sleeping under bednets, use of appropriate repellents, and wear of deet impregnated uniforms. The Army also emphasizes the use of available prophylactic drugs (antimalarial drugs).

Question. How is DOD aligning its research efforts to address the threat of emerging infectious diseases in high risk areas where our service members are exposed?

Answer. The DOD responds to emerging infectious disease threats through focused research, innovative partnerships, and a worldwide network of laboratories and field sites. Critical capabilities includes: global lab infrastructure; history of world-class infectious disease research within Army & Navy CONUS and OCONUS laboratories (i.e. Thailand, Kenya, Georgia, Peru, Egypt, and East Africa); partnerships with other Federal agencies, academia, non-governmental organizations, industry and foreign Governments which leverage collaborative science and funding; clinical trial sites for testing drugs, vaccines, diagnostic devices and vector control products (insecticides, repellents) in endemic disease areas; and collection and analysis of epidemiological data for threat assessment and development of disease control strategies

These relationships leverage resources for continued development of endemic infectious disease treatments, preventive drugs, vaccines, vector control, and diagnostic tools essential to preserving the readiness of the force and protecting populations globally.

Question. It seems to me this is an area [the threat of emerging infectious] where we share some common interests with partners, allies, and even some countries we might not consider too friendly.

Are we working with our partners, allies and others to streamline our research efforts so that we are not duplicating research efforts?

Answer. The U.S. Army Medical Research and Materiel Command and the Naval Medical Research Command have a decades long legacy of military to military cooperation in several overseas military medical research laboratories which have a primary focus on infectious disease research.

In addition to overseas laboratories, the medical research community also has ongoing information exchange agreements and scientist exchange programs with eleven allied governments. These agreements enable research and development cooperation and information sharing. They also provide opportunities for allied scientists to work in our laboratories and for our scientists to participate in allied government research.

In particular, the Army has very strong relationships with years of cooperation with the United Kingdom (UK), France, South Korea and Israel. We have engaged for 45 years with annual meetings and information exchange with the Korean military. We have a strong collaborative relationship with Israel and have participated since 1988 in the bi-annual Shores conference. We are working on product development with France. We also participate in a US-UK Task Force.

QUESTIONS SUBMITTED TO VICE ADMIRAL C. FORREST FAISON III

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

TRAINING FOR MILITARY ORTHOPEDIC SURGEONS

Question. Lieutenant General West stated in her written testimony stated, more than 57,000 Soldiers across all Components [of the Army] were medically non-deployable as of January 31, 2016. In the Active Component alone, 29,800 were medically non-deployable, equivalent to approximately 6.5 Brigade Combat Teams worth of soldiers Seventy-six percent of the non-deployable Soldiers have a related musculoskeletal injury (MSKI). Many MSKI are preventable; 80 percent are the result of physical training overuse and sports related injuries.”

Do the other branches have similar “non-deployable” rates, especially within similar Component forces within the Marine Corps, the Navy and Air Force?

Answer. Just over 10,000, or approximately 2.9 percent, of active duty Sailors are considered medically non-deployable. Navy is not tracking specific diagnoses associated with Sailors who are medically non-deployable, nor have we engaged in a study of this sort to date. Consequently, we are unable to ascertain the number of Sailors on Limited Duty associated with musculoskeletal injury (MSKI).

Approximately 964, or 0.4 percent, of Marines across all components are currently categorized as medically non-deployable; 705, of which are active-duty Marines—less than 0.4 percent. The USMC does not track specific diagnoses associated with these Marines to identify those affected by musculoskeletal injuries (MSKI), nor are we engaged in a study of such to date.

Question. What are the specific numbers for the Navy (and its Marine Corps Component) and the Air Force on these types of injuries?

Answer. At the headquarters level, the Navy is not tracking specific diagnoses associated with Sailors who are medically non-deployable. These are tracked and managed locally. The Navy has funded development of an information system to provide enterprise views of these in the future.

Question. How many surgeries do military service members (active and retired) and their family members undergo annually?

Answer. Navy/USMC (active and retired) personnel had 278,455 surgeries related to musculoskeletal diagnoses in fiscal year 2015. The breakdown of the cases is as follows:

- Navy/USMC personnel (active and retired) and their family members had 31,455 surgeries performed, requiring inpatient stays in fiscal year 2015 due to musculoskeletal diagnoses inclusive of both MTF and network care.
- Navy/USMC (active and retired) personnel and their families had 247,000 surgeries performed as ambulatory outpatient procedures in fiscal year 2015 due to musculoskeletal diagnoses inclusive of both MTF and network care.
- Retirees over 65 often receive care outside of the MHS, using solely their Medicare benefit; this would not be included in the numbers above.

Question. What is the annual cost to the Military associated with these MSK injuries both direct cost (i.e. medical care) and indirect cost (i.e. costs associated with disability and separation from service)?

Answer. Direct Medical Cost.—Data represents a Full Cost burden (unit costs based on respective FY Medical Expense stepdown (MEPRS expenses)). The Navy/USMC incurred \$1.18 billion in costs for care due to musculoskeletal (MSK) diagnoses in fiscal year 2015. Of that amount, \$394 million was for services provided to Active Duty members.

Indirect Costs.—We do not have an estimate of the indirect costs associated with MSK injuries. The myriad assumptions and variables associated with such a complex calculation would require extensive study, analysis, and coordination with the VA.

Question. Please provide any additional data that further establishes the significant impact that sports related injuries/MSKI have on the Department of Defense and its military readiness.

Answer. Not all musculoskeletal injuries (MSKI) are sports related. The active physical nature of readiness training can also, even when done correctly, cause MSKI. The impact of sports related/MSKI on the DOD and on military readiness in particular, is well recognized by Navy Medicine; however, we do not have any additional data to provide at this time.

QUESTIONS SUBMITTED BY SENATOR BRIAN SCHATZ

Question. Since 2000, there have been 177,000 reported incidents of PTSD. That is roughly the size of the Marine Corps. We have made a lot of progress to help those who are suffering find treatment options that work for them. One promising area involves specially trained service dogs. Senator Al Franken worked hard to provide the VA funding for clinical research. I know the VA is currently conducting research to see whether service dogs can provide therapeutic relief to those suffering from PTSD. The Defense Health Agency is also researching this under the Therapeutic Service Dog Training Program, in part as a result of interest from this committee.

Can you offer your medical opinion on what opportunities and potential challenges these service dogs could create as we explore treatment options for these individuals?

Answer. As Senator Schatz noted, there are currently efforts underway at the VA and DHA to determine what type of role, if any, service dogs have in the treatment of individuals suffering with mental health conditions, including PTSD. There are two ways in which animals may play a part: as service animals, which are specially trained and assigned to individuals in order to perform tasks that the individuals are unable to do due to disability; and animal-assisted therapy (AAT), where a provider harnesses the human-animal interaction in order to further an individual's therapeutic goals.

At this point, there is still no definitive scientific evidence or large studies that service dogs in any scenario provide benefit to those experiencing PTSD. There are plenty of self-reports that companion animals/service dogs decrease anxiety, but this is anecdotal. Also, in contrast to a service animal for a mobility- or sight-impaired individual, the service animal for someone with a mental health diagnosis is not performing specific tasks for the individual, but providing a soothing presence (as they do for most people whether or not they have mental health conditions)—but the goal of treatment is to provide the patient with tools to be able to self-soothe and manage their anxiety or other symptoms. Additionally, there have been situations where individuals will obtain an animal from an unknown source, have the animal certified over the Internet by a suspect organization, and then bring the animal into the barracks/clinic/hospital, causing significant disruptions to those in the area.

There is limited literature regarding Animal Assisted Therapy in the treatment of PTSD, but there is some evidence it has benefit as adjunct therapy. The limited literature focuses on child sexual abuse with no robust studies addressing military-related PTSD due to combat.

DODI 1300.27 is the instruction governing service animals, but primarily pertains to the logistical issues of having the animal—specific conditions (other than generic mention of “physical or mental disability”).

In summary, we are in favor of further study particularly for Animal Assisted Therapy for PTSD. However, we recommend caution when considering policy and implementation in the absence of evidence that this is an effective intervention/treatment, particularly given the logistical issues with supporting the presence of animals in military facilities.

Question. Over the last several years, we have refocused our attention on the threat of emerging infectious diseases and the risks that they pose to public health. Men and women in the military often find themselves in these hot zones where emerging infectious diseases are endemic. In the Asia Pacific, for example, malaria, dengue, TB, and other emerging infectious diseases pose a risk to our soldiers, sailors, airmen, and Marines in the region, whether they are stationed there or are supporting theatre security cooperation exercises. And while we can protect them from some of these diseases, some of the diseases we cannot—at least not yet.

What are we doing to reduce the risk that service members face from diseases where there are no vaccines or other protections?

Answer. The Naval Medical Research and Development (NMR&D) Enterprise CONUS and OCONUS laboratories work with partners around the world to enhance detection of emerging infectious disease threats and bio-surveillance capabilities in an effort to quantify infectious diseases risks to operational forces deployed to a given area. To protect personnel determined to be at risk for mosquito and tick-borne diseases where no vaccines exist, we emphasize the use of countermeasures such as the use of prophylactic medications (for malaria) and personal protective measures including insect repellents and bed nets and we make it a leadership responsibility to ensure compliance with those measures.

For more traditional protective countermeasures, our emerging infectious disease research efforts to protect the warfighter focus mostly on developing vaccines for

malaria, dengue fever, and causes of enteric diseases such as viral and bacterial diarrhea.

Question. How is DOD aligning its research efforts to address the threat of emerging infectious diseases in high risk areas where our service members are exposed?

Answer. The diverse capabilities and geographical distribution of the eight NMR&D laboratories reflect the broad mission and vision of the Navy Medicine R&D Enterprise. On any given day, researchers at our OCONUS labs are working in collaboration with host national governments to assess and address the threat of emerging infectious diseases globally. NMRC researchers, with other DOD and interagency collaborators, are advancing efforts towards the development of a malaria vaccine as well as developing measures to counter transmission and drug resistance for comprehensive malaria elimination.

Navy investigators at the OCONUS labs use state-of-the art diagnostics to assess the threat of infectious diseases including Zika virus, Middle East Respiratory Syndrome Coronavirus (MERS CoV), Ebola Virus Disease (EVD) and Chikungunya virus.

Additionally, collaborative work is being conducted in our CONUS labs with industry to develop medical countermeasures, including antibody-based products that can be used for prevention and therapy against these infectious agents.

Question. It seems to me this is an area [the threat of emerging infectious] where we share some common interests with partners, allies, and even some countries we might not consider too friendly.

Are we working with our partners, allies and others to streamline our research efforts so that we are not duplicating research efforts?

Answer. Our global presence requires close collaboration across the DOD, USG, industry and academia. Navy and Army scientists work closely together to develop vaccines and other countermeasures for emerging infectious diseases. Many of our research projects are conducted in close collaboration with other USG agencies, industry, and universities and involve the pooling of scientific information and resources. This collaborative research approach greatly fosters our ability to efficiently and effectively meet infectious diseases research goals and maximizes opportunities for sharing of data, tools, and methodologies with little risk of duplication of effort.

QUESTIONS SUBMITTED TO LIEUTENANT GENERAL MARK A. EDIGER

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

TRAINING FOR MILITARY ORTHOPEDIC SURGEONS

Question. Lieutenant General West stated in her written testimony stated, more than 57,000 Soldiers across all Components [of the Army] were medically non-deployable as of January 31, 2016. In the Active Component alone, 29,800 were medically non-deployable, equivalent to approximately 6.5 Brigade Combat Teams worth of soldiers Seventy-six percent of the non-deployable Soldiers have a related musculoskeletal injury (MSKI). Many MSKI are preventable; 80 percent are the result of physical training overuse and sports related injuries."

Do the other branches have similar "non-deployable" rates, especially within similar Component forces within the Marine Corps, the Navy and Air Force?

Answer. As of March 22, 2016, 27,399 Air Force Active Duty, 8,102 Air Guard, and 5,423 Air Reserve Service members are not medically qualified for worldwide deployment. These numbers include all personnel who are not worldwide qualified due to pregnancy, chronic illness, acute illness, and injuries in accordance with Department of Defense Instruction 6490.07, Deployment-Limiting Medical Conditions for Service Members and DOD Civilian Employees.

Historically, Air Force Total Force medically non-deployable rates have typically ranged between 6 and 10 percent at any one time.

Question. What are the specific numbers for the Navy (and its Marine Corps Component) and the Air Force on these types of injuries?

Answer. In fiscal year 2015, 4,684 Air Force Total Force members suffered injuries or had musculoskeletal damage significant enough to warrant surgical intervention. This number reflects all Air Force members, including Active Duty, Guard, and Reserve. Factoring in service members' family members, retirees, and retiree family members, this number increases to 24,337. Please see the table below for additional historical data. Note that this does not include surgical cases performed by AF or-

thopedic surgeons at partnership institutions such as Level 1 trauma centers or while deployed.

Persons	2013	2014	2015
Active Duty Family Members	2,542	2,546	2,483
Active Duty Service Members	5,071	4,767	4,684
Retiree	6,593	6,303	6,230
Retiree Family Member/Other	11,682	11,166	10,940
Sum	25,888	24,782	24,337

Question. How many surgeries do military service members (active and retired) and their family members undergo annually?

Answer. In fiscal year 2015, there were 26,183 inpatient and outpatient orthopedic surgeries on 24,337 people identified as Air Force (either active duty, retired, or their family members). This care occurred in the direct care system (in one of the three Services' military treatment facilities) or in the network.

Surgeries	2013	2014	2015
Active Duty Family Members	2,740	2,782	2,654
Active Duty Service Members	5,471	5,169	5,071
Retiree	7,023	6,708	6,654
Retiree Family Member/Other	12,633	12,052	11,804
Sum	27,867	26,711	26,183

Question. What is the annual cost to the Military associated with these MSK injuries both direct cost (i.e., medical care) and indirect cost (i.e., costs associated with disability and separation from service)?

Answer. In fiscal year 2015, the approximate cost to the government for the approximately 26,000 surgeries was \$117.5 million. These surgeries were either completed on an inpatient or outpatient basis on people identified as Air Force (either active duty, retired, or their family members). This care occurred in the direct care system (in one of the three Service's military treatment facilities) or in the network.

Cost	2013	2014	2015
Active Duty Family Members	\$9,282,009	\$9,849,105	\$9,905,931
Active Duty Service Members	24,721,701	24,332,035	24,655,677
Retiree	32,201,997	31,284,663	31,238,969
Retiree Family Member/Other	53,839,377	52,372,288	51,682,002
Sum	\$120,045,084	\$117,838,091	\$117,482,579

Question. Please provide any additional data that further establishes the significant impact that sports related injuries/MSKI have on the Department of Defense and its military readiness.

Answer. Military members work in demanding conditions requiring a high level of musculoskeletal performance while facing numerous threats of injury. Consider a special operations unit with dozens of service members each carrying a heavy rucksack over uneven mountainous terrain in Afghanistan. Next, visualize a fighter pilot who is experiencing nine times the force of gravity while wearing a heavy helmet and turning her neck to check her six o'clock position. Military members are well trained and remarkably capable of enduring unique biomechanical stresses, but it should not come as a surprise that musculoskeletal injuries are common in the face of these and other demanding environments. In fact, by almost any measure, musculoskeletal injuries are highly relevant for military readiness within the Department of Defense.

According to data published by the Armed Forces Health Surveillance Center, counting only injuries occurring at a specified site to the upper and lower extremities, there were still over 1.7 million medical encounters and over 13,000 inpatient bed days for the Armed Forces in 2014. Excluding musculoskeletal back pain, rheumatoid arthritis, and osteoarthritis, the other non-injury musculoskeletal disorders comprised another 700,000 medical encounters and approximately 10,000 inpatient bed days from knee, shoulder and other musculoskeletal disorders. Over one-third of all lost work time from any medical cause was attributable to the two broad categories containing injuries and non-injury musculoskeletal disorders. When specified by site, knee, foot/ankle and arm/shoulder injuries each accounted for about 5 percent of all lost work time from any medical cause in 2014, which means injuries

at each of these three anatomical sites accounted for about 50,000 lost work days (or 150,000 work days combined) in 2014.

Musculoskeletal injuries play a large role in numerous operational military environments, including the deployed environment, the flight environment, and the military training environment. A window into the deployed environment can be seen with the overall causes of medical evacuation as well as smaller unit level assessments. Here again, the leading broad categories of medical diagnoses causing evacuation are highly relevant. Specifically, from October 2001 to December 2012 there were over 12,000 evacuations from Afghanistan for battle injury, non-battle injury, and other musculoskeletal diagnoses. These three categories were the three leading causes of evacuation. The same pattern existed in Iraq, where from October 2001 to September 2010, there were over 7,000 evacuations from these three leading causes. Smaller scale evaluation can provide more a more granular look at the nature of injuries. One study of a single Army Brigade Combat Team showed there were incident rates of 15.3 ankle sprains, 3.3 anterior cruciate ligament ruptures, and 1.2 shoulder dislocations per 1,000 soldiers deployed for 1 year, and that musculoskeletal injuries accounted for over 50 percent of non-battle casualties. The flight environment is also crucial for military operations. According to the Human Performance Resource Center, about 85 percent of aircrew and pilots serving on helicopters report back, neck, and leg pain that they find is related to the flight environment.

Likewise, injuries occurring during training operations are also important for maintaining readiness as these injuries can clog the flow of the trainee population through a pipeline. The Accession Medical Standards Analysis and Research Activity (AMSARA) evaluated injuries during the first year of training among non-prior service Army recruits and found over 30 percent had a pain related injury, about 18 percent had other diagnoses of sprains and strains, and about 3 percent had stress fractures.

In summary, there is a significant impact of sports related injuries and other musculoskeletal injuries with the Department of Defense.

QUESTIONS SUBMITTED BY SENATOR BRIAN SCHATZ

Question. Since 2000, there have 177,000 reported incidents of PTSD. That is roughly the size of the Marine Corps. We have made a lot of progress to help those who are suffering find treatment options that work for them. One promising area involves specially trained service dogs. Senator Al Franken worked hard to provide the VA funding for clinical research. I know the VA is currently conducting research to see whether service dogs can provide therapeutic relief to those suffering from PTSD. The Defense Health Agency is also researching this under the Therapeutic Service Dog Training Program, in part as result of interest from this committee.

Can you offer your medical opinion on what opportunities and potential challenges these services dogs could create as we explore treatment options for these individuals?

Answer. While there is limited research in this area, the research has shown that therapy dogs may be beneficial as an adjunctive treatment for PTSD and offers an opportunity for low cost and low side effect intervention. These specially trained dogs may help patients lower their autonomic arousal, increase social engagement, and improve their level of physical activity which is consistent with the desired outcomes for PTSD treatment. However, despite these positive findings, there are a number of challenges associated with utilizing therapy dogs in a military environment most notably, the impact of animals in the operational work environment. In addition, symptoms indicative of the need for a therapy dog would likely affect active duty member world-wide qualifications and may warrant a medical evaluation board, thus this therapy option appears more appropriate for those receiving service through the Veterans Administration. The Air Force is committed to considering all techniques that demonstrate reliable improvement in patient functioning in general and PTSD symptoms in particular.

Question. Over the last several years, we have refocused our attention on the threat of emerging infectious diseases and the risks that they pose to public health. Men and women in the military often find themselves in these hot zones where emerging infectious diseases are endemic. In the Asia Pacific, for example, malaria, dengue, TB, and other emerging infectious diseases pose a risk to our soldiers, sailors, airmen, and Marines in the region, whether they are stationed there or are supporting theatre security cooperation exercises. And while we can protect them from some of these diseases, some of the diseases we cannot—at least not yet.

What are we doing to reduce the risk that service member's face from diseases where there are no vaccines or other protections?

Answer. Multiple force health protection measures are available to commanders to protect Service members against endemic diseases in overseas locations, even if vaccines, chemoprophylaxis (such as anti-malarial medications), or other specific medical countermeasures are not available.

Most force health protection measures are instituted at the command level with medical and line personnel support. These measures are diverse and significantly reduce Service members' risk of endemic disease. They include use of personal protective equipment; enforcement of proper field sanitation; appropriate handwashing protocols; provision of approved food and water sources exclusively and restriction of food and water consumption on the local economy (unless not feasible due to mission constraints); restricting contact with local animals; and provision and enforcement of integrated pest management and pest control measures against disease-carrying insects, rodents, and feral animals, including environmental measures to reduce harborage or breeding areas for such pests.

Service members traveling into areas with a threat of insect-borne diseases are briefed on the disease threat and steps they can take to protect themselves at an individual level. The Air Force endorses the Department of Defense guidance for using personal protective measures to prevent insect bites. This guidance, uses several simple methods, that when combined, provide maximum protection from insect bites. Methods include wearing insect repellent treated uniforms, using insect repellent such as DEET on exposed skin, and wearing the uniform loosely and with the sleeves covering the arms and the pants tucked into the boots. Service members should also sleep inside bed nets when insect-borne diseases are a threat. This is not typically a requirement when Service members are sleeping in hardened facilities with fitted doors, windows, and temperature control allowing them to sleep with the doors and windows closed.

QUESTIONS SUBMITTED TO MR. CHRIS MILLER

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

COMPOUNDING PHARMACY

Question. It is my understanding that Walter Reed National Military Medical Center is pursuing a safety and efficacy study entitled "Efficacy Study Comparing Compounded Topical Pain Creams vs Placebo for Treating Pain Symptoms."

What is the current status of this study?

Answer. The study is ongoing at the Walter Reed National Military Medical Center.

Question. When is it expected to be completed?

Answer. Undetermined, the original expected duration is 30 months from June 2015.

Question. Once this study is completed, how does the DHA intend to utilize these results to inform TRICARE policy on compounded treatments?

Answer. The DHA evaluates the comparative clinical and cost-effectiveness of products based on available literature for incorporation into existing prior authorization policies, as appropriate.

Question. What is the latest monthly expenditure for compounds within the DOD?

Answer. \$3.2 million per month (all compounds) billed under the pharmacy benefit.

Question. What is the total dollar amount for compounds made specifically for pain management?

Answer. The DHA does not receive diagnosis information on compound claims and the total dollar amount for pain compounds is unknown.

Question. To be credentialed by the National Association Boards of Pharmacy (NABP), pharmacies must prove during an "unannounced inspection" that day-to-day operations meet the most up-to-date standards and policies for safety in compounding.

Has DHA considered partnering with pharmacies credentialed by the National Association Boards of Pharmacy (NABP) as DHA continues to evaluate compounding?

Answer. The DHA has worked closely with Express Scripts, who is responsible for developing and maintaining the retail pharmacy network. What the NABP makes available is an inspection program for pharmacies to assist them in license renewal, especially if the pharmacy serves other States and is required to hold multiple licenses. It is not an accreditation program. Also, the NABP does not publish or pro-

vide a list of pharmacies that participate in the program. Although NABP certification implies safe day-to-day operations, it does not validate safety and efficacy of the compounded product in combinations and routes of administration that have not been clinically proven in a peer-reviewed nationally recognized study. The DHA's Prior Authorization process allows physicians the opportunity to present clinical justification for the use of the compound.

Question. What other ideas or strategic approaches have been considered by DHA to identify and partner with the "good actors" within the compounding industry?

Answer. The DHA has interviewed multiple third parties on various approaches to dealing with the complexities and potential fraud now occurring in the compound space. The DHA has worked closely with Express Scripts, who is responsible for developing and maintaining the retail pharmacy network. The resulting strategy has not only ensured that legitimate compound prescriptions are filled, but also has restored compound spending to historic norms.

QUESTION SUBMITTED BY SENATOR JERRY MORAN

Question. Will the administration's proposal to transform Tricare Prime and Standard into Tricare Select and Tricare Choice have any effect on the timeline for implementing T-2017? Will the transformation require a modification to the contract, and if so, does DOD have an estimate on the additional cost or savings this modification may provide?

Answer. Yes, the administration's proposal to transform Tricare Prime and Standard into Tricare Select and Tricare Choice would have an impact on the timeline to implement T-2017. The timeline would be impacted because requirements associated with the implementation of TRICARE Select and TRICARE Choice must be developed to incorporate into the contract. Once the requirements are developed, they will need to be incorporated into the T-2017 contracts, requiring contract modifications. Thus implementation Tricare Select and Tricare Choice would require a delay in implementation of T-2017.

DOD has not conducted a cost analysis to determine the cost or savings impact of modifying the T-2017 contract to implement the TRICARE Select and TRICARE Choice options.

QUESTION SUBMITTED BY SENATOR BRIAN SCHATZ

Question. Mr. Miller, DOD is working to improve the interoperability of its electronic health record with the VA. We've been hoping for progress, but the GAO testified last fall that the VA and DOD are not on track to complete the modernization of their electronic health record systems with interoperable capabilities until after 2018. On Maui, the Pacific Joint Information Technology Center has untapped potential to support DOD's interoperability mission. The Pacific JITC actually created the Joint Legacy Viewer that has allowed the DOD and VA to share read-only electronic health records.

Given its demonstrated success in this space, would you consider using the Pacific JITC for pilot demonstrations as DOD works toward full interoperability of its electronic health record with the VA?

Answer. We recognize that Pacific JITC contributed success stories to the Military Health System over the past 15 years; however, the Department continues to identify areas in which to streamline and achieve economies of scale in order to continue operations under existing fiscal constraints. As part of these efforts, the Defense Health Technology Review (DHTR) Team was established to identify opportunities for efficiencies and savings through standardization and consolidation while meeting the needs of the MHS and improving the tie between IT investments and mission outcomes.

As part of this review the Department plans to stand down Pacific JITC in fiscal year 2017. Health Information technology (IT) research will continue to be executed by the Department's Joint Program Committee 1 (JPC-1), through the U.S. Army Medical Research and Materiel Command, Telemedicine and Advanced Technology Research Center (TATRC) and other DOD research facilities.

SUBCOMMITTEE RECESS

Senator COCHRAN. The Subcommittee will reconvene on Wednesday, March 16 at 10:30 a.m. to receive testimony from the National Guard and Reserve leadership.

Until then, the Subcommittee stands in recess.

Thank you.

[Whereupon, at 11:47 a.m., Wednesday, March 9, the subcommittee was recessed, to reconvene subject to the call of the Chair.]