

RECORD

STATEMENT BY

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Chairman Shelby, Vice Chairman Durbin, distinguished members of the subcommittee, thank you for the opportunity to testify on the current state of Army Medicine and the opportunities and the challenges that lie ahead. Your continued support enables Army Medicine to remain ready and responsive in a complex and demanding global security environment. It has been a privilege serving as The 44th Army Surgeon General and Commanding General of U.S. Army Medical Command for the past two years, and I am incredibly proud to lead a team of talented and dedicated professionals. The strength of our Army is our people, Soldiers, Civilians and Families; and we have a solemn obligation to care for those who serve our Nation and their Families.

The United States Army must be prepared for an increasingly complex world. Our senior defense leaders continually and clearly articulate the concerns from North Korea, Russia, China, Iran, and terrorist threats to the United States. In various ways, these potential adversaries challenge America's power, influence and interests. Army Medicine is prepared to support the Joint Force with scalable medical capabilities in all threat scenarios and across all domains. We know that future multi-domain conflicts will require enhanced capabilities, to provide care at the point of injury or illness. Due to tactical or operational circumstances, our healthcare teams may have to provide prolonged care in environments lacking robust medical infrastructure. Further, our mission requires that we respond to natural disasters and infectious diseases, including possible pandemics and emerging threats.

Army Medicine has the opportunity to make significant improvements in healthcare as we implement the National Defense Authorization Act (NDAA) for Fiscal Year 2017 (FY17), which will influence how we sustain readiness. We are working closely with the Defense Health Agency (DHA) and the rest of the Joint Health Services Enterprise (JHSE) to implement these legislative changes, with thorough analysis, deliberate planning and ongoing coordination. We wholeheartedly support the transition efforts and will continue to work diligently with our JHSE colleagues to implement NDAA requirements while improving medical readiness, meeting the operational requirements of our Combatant Commanders and providing quality healthcare to our patients.

We are the Nation's premier, expeditionary and globally integrated medical force and readiness is my number one priority. We welcome the recent two-year bipartisan budget agreement which promised predictable funding. With this funding, Army Medicine can provide the right medical capabilities our warfighters need and conserve the fighting strength of the Total Force. To that end, we will focus on Readiness, Modernization and People, in concert with Reform, to ensure we are always ready.

READINESS AND HEALTH

The Army Medical Department (AMEDD) has over 180,000 patient contacts daily. To put this in perspective, it is roughly equivalent to reaching each person in Huntsville, Alabama every day. Yet, our readiness mission extends beyond the walls of our Military Treatment Facilities (MTFs). Readiness permeates everything we do from prevention and resilience to rehabilitation and transition. There are two essential components that make up readiness: an Army that is medically ready and a medical force that is ready to meet the ever-evolving challenges of today and tomorrow. First, AMEDD must ensure our Soldiers are physically and mentally fit, ready to deploy anywhere, anytime. Second, we must be a responsive medical capability with clinically proficient individuals who are also worldwide deployable and adept in their warrior tasks and drills. Many Army Medicine Soldier readiness initiatives such as the Performance Triad, which promotes proper sleep, nutrition and activity to improve overall health and reduce obesity; the comprehensive pain management program to reduce reliance upon opioids; and advances in traumatic brain injury care have garnered the interest of the U.S. Surgeon General.

Soldier Medical Readiness

Readiness begins with a fit and healthy fighting force and is the foundation of a strong national defense. The strength of our Army is inextricably linked to our Soldiers' health and wellness. With that foremost in our minds, we have enhanced individual and unit readiness in several ways, to include: leveraging our health and readiness data, an electronic profile system and embedding athletic trainers and physical therapists at the unit level. We are also providing nutrition education; wellness centers; and research

through all portions of the performance triad of sleep, activity, and nutrition. Medical readiness is a shared Soldier and command team responsibility. However, Army Medicine plays a decisive role in monitoring, assessing, and identifying key health-related indicators and outcomes, as well as providing recommendations to mitigate risks.

Through Medical Readiness Transformation (MRT) initiative, Army Medicine focused on reducing the number of Soldiers in the most severe non-deployment category to increase readiness of the Total Force. As a result, the Total Force has achieved the lowest non-deployable percentage in recent history. Additionally, the medical readiness (MR) of the Total Army consistently improved over the past 12 months and the Army exceeded the DoD goal. Current endeavors include the new Health and Administrative Portal which expands MR visibility to additional healthcare personnel for their supported Soldier populations. Regarding the dental readiness of the force, the Total Army reached a remarkable rate of 97.6%. MRT allows for better decision-making and reporting, while improving communication and transparency between Commanders and healthcare providers.

To assist in Soldier readiness and deployability, we maintain 14 Warrior Transition Units (WTUs) across the country. Warrior Care and Transition embodies the Army's enduring promise to provide high-quality care to our wounded, ill and injured. Since the establishment of these organizations, nearly 77,000 Soldiers have completed the program with approximately 43% (33,000) returning to duty. This is roughly equivalent to six Brigade Combat Teams. Our WTUs have helped in increasing readiness and provided retention cost savings for the Army.

The Integrated Disability Evaluation System (IDES) is also an important aspect of continually improving Army readiness. The Army average number of days for completing the Medical Evaluation Board (MEB) Phase is performing better than the Army standard. Resourcing DES staff at the MTFs ensures Soldiers are evaluated through the process expeditiously, but with care. This translates to increased readiness for the Army. Continuous process improvements and close coordination with external stakeholders are necessary for continued success.

Readiness requires a broad and a carefully managed strategy to minimize pain during the healing process. Over the last two decades, Army Medicine has transformed its pain management strategy with great success. Our MTFs have addressed complex pain through multidisciplinary pain committees, which periodically review pain care plans for high risk patients such as those with complex, difficult injuries; high utilization of health care resources; or high risk pain-related behaviors. In treating acute and chronic pain, our holistic management system integrates traditional and non-traditional methods to ensure a decrease in the level of pain while restoring patients' quality of sleep, moods, and activity. In FY 2016, the prevalence of Opioid Use Disorder among the active duty Army was 0.15%, much lower than the 0.90% rate in the overall U.S. adult population. Our pain management program is integral to sustaining this process by providing quality care, mitigating suffering and returning Soldiers to the fight.

Next, in support of Army readiness, the Army has made several innovations in behavioral health (BH) care which cannot be replicated or purchased in the civilian healthcare system. Army Medicine has led the way with our Embedded Behavioral Health (EBH) program. The practice of assigning BH providers to operational units has consistently been recognized as a DoD-wide best practice. More Soldiers are receiving care in the outpatient setting, allowing clinicians to manage BH conditions earlier, before crises occur.

The Behavioral Health Data Portal (BHDP) is recognized as the DoD frontrunner in BH outcomes monitoring, as it enables precision medicine, enhances quality and continuity of care, and contains systems for providing individual feedback and action at the point of care. Overall use of BH care increased from approximately 900,000 encounters in FY07 to over 2.25 million in FY17; precision BH care, enabled by the BHDP, enhanced the benefit level of treatment provided during these visits. Army Medicine will continue to refine and build on successes in the BHDP to enhance our ability to monitor clinical outcome metrics and refine BH programs based on their metrics. We are excited to report we have shared the BHDP with the DHA to implement throughout the Services, thereby benefitting all Service Members. Efforts continue to advance BHDP functional integration into MHS GENESIS, the new electronic health record for the DoD.

Other key components of ensuring medical readiness are improving our ability to execute preventive medicine, public health, health surveillance and health risk assessment. This minimizes incidences or the severity of disease or illness. AMEDD works to protect our people against diseases or Chemical, Biological, Radiological, Nuclear, Explosives hazards by applying uniform and timely countermeasures in our Army and across the Joint Force.

Ready and Responsive Medical Capability and Force Development

The demand signal from the Army and the Joint Force is the foundation of our ready and responsive medical force. Their requirements drive how Army Medicine recruits, trains and operates, from expeditionary and prehospital to primary and tertiary care. This means maintaining our skilled medical force through daily MTF operations, medical training, and education programs. Our training facilities are essential to that end.

We use our Medical Simulation Training Centers at 21 locations to augment training outside of our MTFs. For example, the Anderson Simulation Center, located at Madigan Army Medical Center, Joint Base Lewis-McChord, WA, is the first DoD facility to be accredited both by the American College of Surgeons and the Society for Simulation in Healthcare. The Center is one of seven sites nationwide to hold Level 1 accreditation by the Society for Simulation in Healthcare and the only site in Washington State and Northern Oregon that provides the Fundamentals of Laparoscopic Surgery (FLS), Endoscopic Surgery (FES), and Robotic Surgery (FRS) via simulation training. Anderson serves as the primary training site for FLS training in Washington State and certifies both military and civilian doctors in training to meet the simulation requirement for their residencies further embracing opportunities to collaborate with civilian partners; our Simulation Center at William Beaumont Army Medical Center in El Paso, TX also works with the University of Texas for its residency training programs. We are extremely proud of the world class medical education and training we provide.

Army Medicine runs the largest Graduate Medical Education (GME) training program in the DoD. Annually, we train over 1,500 physicians in our MTFs. Our reputation for superior clinical training and leadership development boosts recruiting

and retention efforts and our first time medical board certification pass rate of about 92% well exceeds the 86% national average in FY17. Our GME programs are vital force generation and retention tools. The reach of Army GME extends across all Army components. Those leaving active duty service are a primary source of GME-trained physicians for the nation's civilian healthcare system, as well as the Army Reserves and National Guard, helping to offset civilian physician training shortages.

In addition to GME, the Army Medical Department Center and School (AMEDDC&S) located in San Antonio, Texas is the largest civilian-accredited service school. Annually, we train more than 31,000 U.S. students and 330 International students. This includes enlisted, officers, warrant officers and Civilians in diverse graduate, leadership and technical programs. The AMEDDC&S has 13 Master's Degree Programs and Doctoral Programs, three of which are ranked in the top 10 nationally by U.S. News and World Report.

Despite our GME reputation and efforts, we are challenged in our recruiting efforts to acquire some low density specialties. Orthopedic, thoracic, and general surgery are critically short specialties for Army Medicine across all components, as are emergency medicine, anesthesiology and psychiatry.

We are actively working to adapt and align residency and fellowship training allocations to emphasize the sustainment of trauma care capability. Moving forward we will continue to expand partnerships with civilian institutions to establish enduring training agreements. We are also continuing to collaborate across the Services to leverage tri-service training platforms to optimize individual and team training opportunities. Finally, in an effort to recruit and retain these critical skillsets, we maximize our use of student loan repayment and financial assistance programs, health professions scholarships, accession bonuses and special pay and incentives. Predictable, continued funding is essential to maintain and enhance these programs and keep them relevant to recruitment and retention efforts.

The success of Army Medicine is ultimately determined by our ability to meet the operational requirements of the Combatant Commanders. The AMEDDC&S developed the curriculum for and graduated the first 10 students in December 2017 from the Expeditionary Combat Medic (ECM) program. The ECM is a force multiplier that will

produce medics able to provide additional advanced medical services to include treatment of common conditions, prevention of disease and treatment of combat trauma casualties. We estimate that the Total Force requirement will be 2,600 ECMs by 2024. ECM represents the primary solution to developing prolonged casualty care. It addresses FORSCOM's needs and we believe this capability will decrease morbidity and mortality in a major conflict.

The lessons of operations in Afghanistan and Iraq have informed requirements for medical capability and development of force structure. The Expeditionary Resuscitation Surgical Team (ERST) training also at San Antonio is an additional training set to increase the readiness of our medical force and meet the operational requirements for our Joint Force. The three-week course provides advance surgical, resuscitative and critical care training to surgical teams supporting operating forces in austere, remote environments.

In the area of training, Army Medicine has developed Critical Clinical Training Task Lists (CCTTLs) for 98 AMEDD Officer Areas of Concentration and 24 enlisted military occupational specialties. This enhances individual and unit readiness in support of Army and Combatant Commanders' war plans and contingency operations by codifying unit specific mission essential tasks.

Army Medicine is also able to increase its readiness through Army and Joint Global Health Engagement. These international programs are a form of medical cooperation, advancing best practices in military medicine while assuring our allies and partners of our commitment to their security. Army Medicine is postured to participate in humanitarian assistance and disaster relief activities when directed by our Nation.

Each of our Services provide medical support to Combatant Commanders as directed in strategic and operational documents. During early phases of any operation, setting the theater is essential to mission success and enables successful transition to other military operations. For ground operations, Army medical forces are the likely force provider. Army medical personnel are integrated into all echelons of support from organic medical forces in the Brigade Combat Team to theater level hospitalization. The AMEDD makes up approximately 70% of medical force structure allocated to Combatant Commanders and routinely provide support to the Joint Force. To reduce

risk to ground-based operations, we must remain ready - manned, trained, and equipped, to support military operations.

Although medical support is a shared responsibility, the Army is responsible for providing logistical support to Joint Forces assigned to areas of operation. Currently Army Medicine has been identified as the Theater Lead Agent for Medical Materiel for five of six Combatant Commands including the Korean peninsula. We ensure a coordinated and integrated medical logistics support plan for the Joint Force. For contingency operations, AMEDD forces are the lead for the medical logistics support essential to operational success.

MODERNIZATION

Army Medicine has a long history and proven record of support to our Nation, from Army surgeons operating independently during the Revolutionary War to our current Globally Integrated Operations. We are continually evolving to meet the environment we face. Thankfully, we have progressed from the era of leeches and bloodletting to now employing advanced technologies, such as virtual health and freeze dried plasma. In the process, the battlefield survivability rate and the overall health of the force has improved exponentially. Our successes are due to the great team of researchers and modern technologies we employ.

The U.S. Army Medical Research and Materiel Command (MRMC) is unique to the Department of Defense and drives medical innovation. It combines Medical Research, Development and Acquisition capabilities with strategic and operational logistics as a total life cycle management command. MRMC activities ensure that our Soldiers remain in optimal health and are equipped to protect themselves from disease and injury. Cutting edge technology research by our professionals in six medical research laboratory commands in the continental United States and across the globe have added to the readiness, lethality and survivability of the Total Force. Proper funding has allowed MRMC to make advancements in combat casualty care, clinical rehabilitative medicine, medical training, health information, infectious disease prevention and operational medicine. There is no nation on earth that approaches the reach and scale of such support to deployable forces.

Virtual Health (VH)

Our ability to bring care closer to our patients, deployed or stationed at home, through telecommunications is one of the most promising and cost effective developments in Army Medicine in a generation. In 1992, the Army pioneered portable virtual health (VH) systems for operations in Somalia. Twenty-five years later and in response to Hurricane Maria, the 14th Combat Support Hospital (14th CSH) deployed to Humacao, Puerto Rico where they established clinical operations for our fellow citizens including VH capabilities. The 14th CSH in Puerto Rico coordinated their care through providers at Brooke Army Medical Center in Texas and Eisenhower Army Medical Center in Georgia.

Since 1992, there has been an exponential improvement in VH, and it is now a global endeavor. The Army designated its first Virtual Medical Center (V-MEDCEN) at Brooke Army Medical Center. We offer over 30 clinical specialties across 18 time zones, in over 30 countries and territories, which enables providers to remotely monitor patient vitals, provide virtual consultations, and assist medics engaged in combat casualty care. VH is a way to transform access in garrison facilities, patients' homes or at points of injury. The operational benefits of this innovation include providing remote trauma and advanced burn care and coaching special lifesaving techniques such as methods to decrease intracranial pressure in a Soldier with a traumatic brain injury, packing and temporarily closing the abdominal cavity in a gunshot wound survivor accessing deep vessels to stop bleeding and save a limb in a Soldier with a severe leg wound. Technology now allows Army Medicine to mitigate the challenge of distance to save lives, limbs and eyesight.

Medical Protection

Protecting the force through treatment or from infectious disease is essential to the AMEDD mission. The DoD, through the MRMC, is the largest sponsor of trauma and injury research and development in the Nation. In fact, no other private or federal entity provides significant funding to advanced topics in acute casualty care. Through

this research, the DoD spearheaded development of a first-of-its kind technique to control hemorrhaging from inside the blood vessel a balloon that temporarily stops blood flow from large blood vessels to the extremities while keeping intact the supply to vital organs. Additionally, MRMC is collaborating with the Food and Drug Administration (FDA) to bring life-saving products such as Freeze-Dried Plasma, through the approval process as expeditiously as possible. Future prolonged battlefield evacuation times will require these types of novel solutions to improve battlefield survivability.

Malaria is still the number one infectious disease threat for deployed forces. Due to the efforts of Army infectious disease researchers, two anti-malaria drugs are in final stages of clinical trials and FDA license packages. Two malaria vaccines also continue testing in clinical trials as part of a broader DoD malaria vaccine portfolio. For the first time, these candidates demonstrate a greater than 85% efficacy, lasting up to six months against controlled human malaria infections. Continued support for these programs will result in a viable solution for Service members.

Finally, our modernization efforts have generated tremendous progress regarding traumatic brain injuries (TBIs). Since 2000, Army personnel have sustained over 217,000 TBIs, 177,088 of which were classified as mild. Thanks to Congressional funding, the Army researchers at Fort Detrick, Maryland have discovered a new blood test to evaluate mild TBI, which was recently approved by the FDA. Soon, our medical personnel will no longer have to rely on the symptoms of concussions alone to diagnose TBIs, but will have access to an objective marker of injury to the brain, all from a simple blood test. This test has great potential to change the practice of medicine for brain injury, in particular, to quickly evaluate injured Soldiers in remote locations.

PEOPLE

As previously mentioned, the strength of our Army is its people. Notably, we have a ready medical force capable of global deployment for the full range of military operations as we ensure the Total Force is ready to fight and win our Nation's wars.

The recruitment, development, employment and retention of Soldiers who are adaptive, skilled medical professionals is critical to the ability of Army Medicine to conduct its mission across multiple domains. Properly managing talent management is

of vital importance to enhancing readiness by aligning the unique talents of our people to the needs of our Army in supporting the JHSE and any operational requirements.

Our Soldiers and Civilians must be developed and equipped with tools that enable effective, agile and adaptive leaders. Our education and training must be developed in tandem with development of a career progression model that identifies key assignments that impart the experience and knowledge crucial to understand and solve the complex and dynamic challenges associated with globally integrated health services. These steps will produce medical leaders and staffs who understand how to plan, coordinate and build synergy from medical capabilities inherent to all Services, interagency, multinational partners and nongovernmental organizations.

The ultimate outcome is Army Soldiers who are medical professionals capable of operating within a joint framework and warfighting leaders informed of the force-multiplying capabilities of JHSE. To this end, we are committed to ensuring all Soldiers and Civilians are provided full career opportunities to reach their highest potential and their vast talent is realized.

Conclusion

There is no other health service support capability on the planet that compares to Army Medicine. We must be capable of transporting an entire hospital, moving it half way around the world at a moment's notice and establishing it where needed. We have been a reliable health enabler supporting our Army and the Joint Force since 1775 and will continue that mission as long as our Army and the Joint Force continue to call on us. Congressional support has enabled Army Medicine to advance military medical care in support of our Army, the Joint Force and that has also advanced the healthcare system of our Nation.

The Strength of our Army is derived from our Soldiers, and in turn, their Families. Our strength is not derived from a weapon or a weapon system alone; it originates from our people. Army Medicine is the driving force behind the medical innovations and technologies that allow us to adapt to future challenges that may arise at home or abroad. We will provide prolonged care at the point of need and through every echelon of care, while continuing to meet or exceed national quality of care

standards. This is our solemn obligation to our Nation; our readiness to support our Nation's Army will always be assured.

I remain committed working with all of our DoD, Joint, interagency, intergovernmental, multinational and civilian partners to improving readiness, enhancing the healthcare delivered to our beneficiaries, evolving to support the Army and Joint Force in future conflicts, and continuing to take care of our Soldiers, Civilians, and their Families. I appreciate the subcommittee's work and continued support to our Soldiers, Army Medicine and our Army.