United States Air Force

Presentation

Before the Senate Appropriations Committee, Subcommittee on Defense

Defense Health Programs & Military Medicine Funding

Witness Statement of

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

April 26, 2018

BIOGRAPHY

UNITED STATES AIR FORCE

LIEUTENANT GENERAL MARK A. EDIGER

Lt. Gen. (Dr.) Mark A. Ediger is the Surgeon General of the Air Force, Headquarters U.S. Air Force, Washington, D.C. General Ediger serves as functional manager of the U.S. Air Force Medical Service. In this capacity, he advises the Secretary of the Air Force and Air Force Chief of Staff, as well as the Assistant Secretary of Defense for Health Affairs on matters pertaining to the medical aspects of the air expeditionary force and the health of Air Force people. General Ediger has authority to commit resources worldwide for the Air Force Medical Service, to make decisions affecting the delivery of medical services, and to develop plans, programs and procedures to support worldwide medical service missions. He exercises direction, guidance and technical management of a $6.1 billion, 44,000-person integrated health care delivery system serving 2.6 million beneficiaries at 76 military treatment facilities worldwide.

Prior to his current assignment, General Ediger served as Deputy Surgeon General, Headquarters U.S. Air Force, Washington, D.C.

General Ediger is from Springfield, Missouri. He entered the Air Force in 1985 and has served as the Aerospace Medicine Consultant to the Air Force Surgeon General, commanded two medical groups and served as command surgeon for three major commands. He deployed in support of operations Iraqi Freedom, Enduring Freedom and Southern Watch.

EDUCATION

1977 Bachelor's degree in chemistry, University of Missouri, Kansas City
1978 Doctor of Medicine degree, University of Missouri, Kansas City
1981 Residency in family practice, Wake Forest University, Winston-Salem, N.C.
1991 Master of Public Health degree, University of Texas School of Public Health, San Antonio
1992 Residency in aerospace medicine, USAF School of Aerospace Medicine, Brooks Air Force Base, Texas

ASSIGNMENTS

1986 – 1988 Chief, Family Practice, Air Transportable Hospital Commander, 1st Medical Group, Langley

AFB, Va.
1988 - 1990 Flight Surgeon and Chief, Flight Medicine, 94th Fighter Squadron, Langley AFB, Va.
1990 – 1992 Resident in Aerospace Medicine, USAF School of Aerospace Medicine, Brooks AFB, Texas
1992 – 1994 Chief, Aeromedical Services, 325th Medical Group, Tyndall AFB, Fla.
1994 - 1996 Chief, Aerospace Medicine Branch, and Chief, Professional Services Division, Headquarters Air Education and Training Command, Randolph AFB, Texas
1996 - 1998 Chief, Aerospace Medicine Division, Air Force Medical Operations Agency, Bolling AFB, Washington, D.C.
1998 - 2000 Command Surgeon, Air Force Special Operations Command, Hurlburt Field, Fla.
2000 - 2002 Commander, 16th Medical Group, Hurlburt Field, Fla
2002 - 2003 Commander, 363rd Expeditionary Medical Group, Southwest Asia
2003 - 2007 Command Surgeon, Headquarters U.S. Air Forces in Europe, Ramstein Air Base, Germany
2007 - 2008 Command Surgeon, Headquarters Air Education and Training Command, Randolph AFB, Texas
2008 - 2012 Commander, Air Force Medical Operations Agency, Lackland AFB, Texas
2012 – 2015 Deputy Surgeon General, Headquarters U.S. Air Force, Washington, D.C
2015 – present Surgeon General, Headquarters U.S. Air Force, Washington, D.C.

FLIGHT INFORMATION
Rating: Chief flight surgeon
Flight hours: More than 800 hours, including 90 combat support hours and 38 combat hours
Aircraft: C-130, MH-53, F-15, T-38 and KC-135

MAJOR AWARDS AND DECORATIONS
Air Force Distinguished Service Medal
Legion of Merit with two oak leaf clusters
Bronze Star Medal
Meritorious Service Medal with four oak leaf clusters
Aerial Achievement Medal

PROFESSIONAL CERTIFICATIONS
1982 American Board of Family Practice (most recent recertification in 2015)
1992 Aerospace Medicine, American Board of Preventive Medicine

EFFECTIVE DATES OF PROMOTION
Major April 28, 1986
Lieutenant Colonel April 28, 1992
Colonel April 28, 1998
Brigadier General April 14, 2008
Major General July 13, 2012
Lieutenant General June 5, 2015

(Current as of November 2017)

Chairman Shelby, Vice Chairman Durbin, and distinguished members of the Subcommittee, thank you for this opportunity to testify before you today.

Today, Air Force Medicine is at a crossroads. We support the health and performance of today's Airman as part of the Joint Team, delivering capabilities under years of steadily increasing demand. As Airmen apply innovation, expertise and vigilance to meet evolving challenges in the mission, our medical teams have done the same to provide Trusted Care and advanced medical interventions in difficult environments on the ground and in the air. Even as 730 medical Airmen serve in deployed settings today and thousands more support operations from our permanent bases, we see a future described in the National Defense Strategy and the evolution of operational plans in the combatant commands that mandates change in our operational capabilities. Provision of those capabilities is requiring new processes for sustaining a ready medical force more reliant on proven partnerships with trauma centers and critical care centers outside DoD. Provision of those capabilities will require a different mix of skill sets among medical Airmen that must be met within existing end strength, moving our medical force structure out of synchrony with staffing requirements for legacy hospitals and ambulatory military treatment facilities. This change is evolving as we work to reform the Military Health System under the direction specified in the FY17 National Defense Authorization Act (NDAA), moving authority for management of the administration of military hospitals and clinics to the Defense Health Agency.

Meeting the operational imperatives while achieving important efficiencies via reform is requiring that we reconsider the roles and distribution of medical Airmen, expand proven readiness partnerships, strengthen a mutually supportive partnership with the Defense Health Agency, and focus our healthcare operations on operational requirements. Simply put,

increasing our operational capability within existing end strength will require that we repurpose part of the medical force, thereby reducing uniformed participation in nonoperational services where other options exist. This must be done judiciously and with careful analysis. This approach is consistent with the intent and language of FY17 NDAA and DoD reform of business processes.

So, this is our crossroads, shaped by a confluence of operational, health-related and economic strategic drivers. All must be duly honored. We are working to strike the needed balance to define the path for Air Force Medicine in close coordination with the Army, Navy, Defense Health Agency (DHA) and the Joint Staff. As we do this, we must remain committed to the quality and safety of the care we provide, something we call Trusted Care. We are three years into Trusted Care, in which we are applying principles borrowed from military aviation coupled with continuous process improvement to develop a culture of high performing teams, always vigilant for risk, with every Airman a problem solver every day.

A prime example of evolved requirements changing our processes for sustaining a ready medical force is damage control surgery for stabilization of trauma near the point of injury. Over the past 17 years, combat operations have focused largely on counterinsurgency and irregular warfare. Over that period, the geographic range of military operations has expanded considerably with dispersed forces operating in small, highly mobile force packages. The agile nature of these operations and geography over which they operate have generated a considerable evolution of requirements for medical support. This mission, primarily in CENTCOM and AFRICOM requires trauma stabilization teams capable of using state-of-the-art advanced trauma resuscitation techniques in a space of opportunity, rather than a field hospital, with the ability to relocate rapidly. The forward locations require the ability to hold and sustain a trauma patient

post-operatively for 12-18 hours in some cases even as the team stabilizes other patients. Air Force Medicine has been steadily adjusting its capabilities to provide the flexibility and agility required to bring excellent trauma stabilization into this operational environment and enhance critical care capabilities during aeromedical movement.

Counterinsurgency and irregular warfare plus advances in field medical capabilities drove the evolution of battlefield medicine towards highly capable medical teams deployable into austere environments to provide trauma resuscitation and life-sustaining care at, or close to, the point-of-injury. Capabilities like Special Operations Surgical Teams, or SOSTs, and Ground Surgical Teams, or GSTs, fulfill that role admirably, and deploy around the globe to support unconventional operations by U.S. and coalition forces.

Forward deployable teams use structures of opportunity in the field to treat critically injured patients, even when lacking access to basic requirements like clean water, air conditioning and electricity. Five SOST members recently received the Bronze Star for a four-month tour in support of Operation INHERENT RESOLVE, where they delivered combat casualty care out of a two-room, concrete-walled farmhouse in the Middle East. They treated more than 750 patients – mostly local residents and coalition forces – working around the clock to treat what one SOST member called “a fast-moving river of trauma.”

SOST teams typically consist of a trauma surgeon, emergency physician, nurse anesthetist, surgical scrub technician, critical-care nurse, and a respiratory technician. They also possess advanced tactical training, making them capable of far-forward support. GSTs are an adaptation (of the SOST) giving conventional field surgical support some of the characteristics and capabilities of the SOST while maintaining GST readiness for conventional missions.

GSTs incorporate the damage control and surgical capabilities previously delivered by the Mobile Field Surgical Teams, or MFSTs, and build in organic critical care and logistical capacity. GSTs include a general surgeon, an emergency services physician, an anesthesiologist, a critical care nurse, a surgical technician, and a health services administrator/logistician. Making all these components organic to the GST delivers a leaner, more nimble platform that can deploy more rapidly, meeting operational demand. To better support the combatant commands, Air Force Medicine is currently training and equipping GSTs, with enhanced flexibility and capacity, to replace the legacy capability provided by MFSTs.

Timely, evidence-based damage control surgery and trauma stabilization coupled with critical care in aeromedical evacuation have become the standard for U.S. medical support to military operations. The Air Force is currently training and equipping additional Critical Care Aeromedical Transport Teams (CCATTs), in response to requests from combatant commands to increase our critical care aeromedical evacuation capacity. This will require greater numbers of medical Airmen with critical care skills and keeping those Airmen ready will require a day-to-day clinical practice of critical care beyond what our population of military beneficiaries will require.

These deployable teams, Special Operations Surgical Teams, Ground Surgical Teams and Critical Care Aeromedical Transport Teams, were the primary drivers of a new concept for sustaining a ready medical team. New and evolving capabilities to bring advanced diagnostic and treatment capability into the field and into aeromedical evacuation demands a new process for keeping Air Force medical personnel clinically prepared for their deployed roles. This concept led the Air Force to implement new standards, known as the Comprehensive Medical Readiness Program or CMRP, specifying the case volume and case mix within the medical

practice to keep a medical Airman's skills honed for deployment. This new readiness concept also led us to expand our use of partner institutions to sustain ready medical teams, a practice we believe will grow in order to meet new readiness standards. Commanders now balance practices in our hospitals and clinics with those in partner institutions in order to meet standards.

These partnerships are critical to Air Force medical readiness. Air Force Medicine maintains numerous training affiliation agreements with civilian facilities, including the University Medical Center in Las Vegas, Baltimore Shock Trauma, University of Cincinnati, University of Miami, University of Nebraska, Miami Valley in Ohio, St Louis University, UC Davis Medical Center, Addenbrookes Hospital in Cambridge, England, and 54 agreements with U.S. Department of Veterans Affairs facilities.

These readiness partnerships have proven effective in pre-deployment preparation of teams, initial team training, and for long-term sustainment of skills through either part-time or full-time embedded Air Force clinicians. The SOST team referenced earlier, that was awarded the Bronze Star, is fully embedded in the level-one trauma center at the University of Alabama-Birmingham. One such partnership with University Medical Center in Las Vegas demonstrated its value to the community and the Air Force in the response to the tragic 2017 mass shooting in Las Vegas. Air Force surgeons, as well as nurses and technicians from Nellis Air Force Base, were integral to the trauma care provided to victims.

VA partnerships open access to Air Force specialty care to veterans, thereby sustaining the readiness of Air Force clinicians while enhancing efficient use of federal healthcare capacity. However, contrary to expectations, implementation of the VA Choice Act led to a 15% decrease in veteran referrals to Air Force hospitals. As we seek to efficiently sustain the readiness for

specialty providers at our hospitals, this is an area of concern. The DHA's new authorities under the Fiscal Year 2017 NDAA will help our hospitals capture more specialty care via partnerships, efficiently utilizing specialty capacity while enhancing the readiness of deployable teams.

CMRP establishes standards for a ready medical force at the individual Airman level, and allows commanders to manage their units to those standards. We developed checklists for each Air Force specialty code, which guide Airmen through their readiness requirements in three categories. The Air Force Medical Readiness Decision Support System tracks these individual tasks, which inform commanders' unit readiness reports in the Defense Readiness Reporting System. We are confident that management to CMRP standards will be important to putting forward advanced medical capabilities in support of deployed operations today and into the future.

As the military medical services and the DHA continue to implement direction from the 2017 NDAA, the CMRP will be a vital tool to measure the impact of the transition on medical readiness standards. We look forward to partnering with the DHA as it leverages its new authorities to meet service readiness requirements, particularly for specialty care providers. Developing new avenues to bring specialty care into the MTFs so that our providers can maintain their skills should be a vital component of the future MHS model.

Flexible deployable teams and equipment sets enable Air Force medics to respond to a diverse set of operational scenarios. When a field hospital is needed, the Air Force Medical Service deploys the Expeditionary Medical Support System, or EMEDS. EMEDS is a modular, scalable field hospital system. It has emergency, intensive care, recovery, laboratory, dental, and primary care capabilities. EMEDS enables the Air Force to deploy scalable capabilities. Smaller

teams can provide trauma stabilization or primary care for a modest number of casualties. Bigger teams deploy as a medical system up to the size of an Air Force Theater Hospital that can provide specialized medical care to a patient population of several thousand, such as the Joint Theater Hospital at Bagram Air Base in Afghanistan.

Air Force Medicine recently updated the EMEDS training curriculum to include the most current doctrine and lessons learned, incorporating tactics, techniques, and procedures for the new GSTs, as well as updated scenarios for the full spectrum of medical operations. An EMEDS+25 (capable of supporting 25 inpatients and an at-risk population of 5,000) deployed to San Juan, Puerto Rico this fall to aid in the relief efforts following Hurricane Maria. EMEDS plays a vital role in the Air Force Medical Service's wartime readiness mission and in humanitarian and disaster relief efforts around the world. In addition to delivering critically needed care, these efforts serve as vital training and readiness preparedness opportunities for Air Force medics. The skills required are similar to a combat deployment, especially since the lack of infrastructure in post-disaster environments can resemble austere combat deployments.

Another platform, the En Route Patient Staging System, or ERPSS, deployed to the U.S. Virgin Islands for hurricane relief. ERPSS specializes in triaging and preparing patients for aeromedical evacuation, and can quickly deploy. The ERPSS team on St. Croix began clearing patients for transport back to the mainland within hours of arrival.

An additional platform is the Transportation Isolation System, or TIS. Developed to support the 2014-2015 Ebola crisis outbreak in West Africa, the TIS allows the Air Force to transport patients with highly contagious diseases without risking contamination of aircraft or exposure to others. This platform can transport patients with hazardous biological, chemical, and

even radiological exposures. The Air Force Medical Service is further developing this capability to support future humanitarian crises, and to enhance capabilities to move patients exposed to biologic warfare agents.

Air Force commanders are asking us to expand operational medical support in the mission environment to enhance the health, resilience and fitness of Airmen through medical engagement in the environment in which they serve day-to-day. We have gained experience applying this concept, found it to be successful and are moving to apply it broadly across the Air Force in two forms: embedded medical support and operational medical outreach.

Air Force Medicine is embedding growing numbers of medical specialists into operational units. There, they deliver preventive and rehabilitative support in the mission setting tailored to the Airman's operational role. Preventive measures, early intervention and teaching self-help techniques in a high tempo mission hold promise for significantly enhanced health, performance and resilience.

We are also testing Operational Support Teams (OSTs), where Medical Groups deliver mission-focused support to line and squadron units. Teams rotate through different units at their base, with the goals of decreasing injuries while increasing psychological and physical resilience, Airmen mission availability and performance, and squadron mission effectiveness. Base OSTs will use evidence-based interventions to provide targeted engagement for units identified as "higher risk" for mission related psychological or physical injury. The teams include a licensed mental health provider, mental health technician, physical therapist, exercise physiologist or certified athletic trainer, and a human performance integrator.

Base OSTs are currently operating at Joint Base Elmendorf-Richardson and Whiteman Air Force Base. We plan to stand up OSTs at 13 additional bases next year and continue adding teams until at least one is in place at each Air Force base, available to support any unit. These medics will know the mission, build relationships, and pursue opportunities to improve Airmen's health and performance.

An additional change we are pursuing pertains to our operational health processes. These processes provide periodic assessments of the readiness of each individual Airman, communicate with commanders about duty limitations, assess deployment health and prepare reports for disability evaluation by the personnel system. These processes are currently conducted in family medicine and aerospace medicine clinics, which complicates access to timely primary care and negatively impacts the provision of timely and accurate fitness for duty determinations. Our remedy will be to establish dedicated operational health teams at each military treatment facility, which will require repurposing a portion of the medical force. Moving operational health processes into a dedicated lane will enable streamlined and accurate operational health services while permitting the Medical Homes to focus on timely access and team-oriented preventive care.

In 2017, the Air Force implemented the annual person-to-person mental health assessments for all Airmen as required by statute. The annual mental health assessment consists of an evidence-based screening assessment with a patient interview. The mental health assessments are now incorporated in annual periodic health assessments. As of February 13, 2018, Air Force Medicine has completed 148,000 Mental Health Assessments for Airmen. The Air Force continues to perform mental health assessments pre- and post-deployment as well, using the same standard assessment as the annual screening.

Research is essential to continued advances in our deployable medical capabilities and to advising the Air Force on the optimal human-machine interface for safety and effective performance. The 711th Human Performance Wing at Wright-Patterson Air Force Base in Ohio researches human-centric capabilities to apply to future weapon system and sustain current systems. Human Systems Integration is the means by which the Department applies these research initiatives to optimize performance and minimize life-cycle costs in our weapon systems.

Air Force medical researchers are working with the Air Force Research Lab to develop emerging medical applications of advanced wearable technologies for battlefield Airmen. The Battlefield Airmen Trauma Distributed Observation Kit, or BATDOK, is a new point-of-injury, multi-patient monitoring capability. This technology resolves an urgent point of injury mass-casualty need for dismounted pararescue jumpers, or PJs. BATDOK enhances a PJ's ability to care for multiple patients by wirelessly monitoring five or more patient vitals simultaneously through a specially designed mobile interface. BATDOK has been operationally tested via several mass-casualty military exercises and Air Combat Command and Air Force Special Operations Command are currently evaluating it for use by their medical elements.

Our researchers are also developing a portable capability to produce U.S. Pharmacopeia-quality sterile water for wound irrigation and injection in austere locations. This capability will allow medical units to use any water source at deployed locations and shipboard to reconstitute freeze-dried plasma, IV solutions, and perishable medications for immediate use to treat patients. This reduces the logistical burden of transporting and storing heavy water-based solutions and increases storage life of perishable medications. This capability follows breakthroughs in hollow-fiber ultrafiltration and resin-based filters, which replaces larger and more costly heat

sterilization and the reverse osmosis process. We anticipate a deployable system will be available by 2021.

En route care is another significant avenue of Air Force medical research efforts. Researchers with the 711th Human Performance Wing have developed a Critical Care Aeromedical Transport Team patient monitor that connects to hand-held smart tablets, allowing one medic to monitor several patients at once. These monitors continuously collect patient vital signs. The data from these monitors is then used to create trends over time. Initial studies suggest that these trends can be used to predict and prevent the development of life-threatening conditions before they occur. With the constrained resources available onboard an aircraft, the ability to stop a more serious condition before it emerges is especially vital.

Air Force Medicine also engages in research to improve care for service members recovering from injury. Combat-related extremity and facial trauma are common injuries for deployed service members. Improving treatment for these traumas requires the development of more sophisticated techniques of surgical reconstruction. The Restorative Endeavor for Service members Through Optimization of Reconstruction, or RESTOR, group at the 59th Medical Wing is identifying cutting-edge cross-disciplinary strategies, technologies, and therapies for advanced management of combat trauma through tissue preservation and limb restoration. Ongoing efforts in this field are using novel therapies and techniques to support replanted and transplanted tissues during surgical reconstruction. Our researchers are exploring “bio-absorbable” space-filling constructs as a revolutionary negative pressure wound therapy technique to save limbs. They are also facilitating long-term graft survival by evaluating custom immuno-therapeutics to mitigate the risk that the body rejects the graft.

Air Force Medicine is deeply engaged in reforms to the Military Health System established by Congress in the 2017 NDAA and pursuant to the Secretary of Defense's reform of DoD business processes. We continue to work with our Army, Navy, and Defense Health Agency partners in finalizing plans to implement the NDAA and continue with comprehensive reform of the Military Health System.

We are embarking upon a phased implementation, moving one Air Force hospital and two clinics to direct DHA management. We are working hard to implement under a framework that will produce meaningful reform to healthcare delivery while implementing a new approach to building and sustaining a ready medical force.

Just as the U.S. military is mapping its adaptation to a changing security environment as described in the National Defense Strategy, Air Force Medicine is at the confluence of strategic drivers that mandate a new path to newly defined future capabilities. This will require reassessment of the operational alignment of our legacy scope of services as we meet new operational imperatives. As we map this path, we remain firmly committed to serve the mission, Airmen, the Joint Team and families with Trusted Care, a ready medical force and operationally engaged health services.

This is my final time appearing before the Subcommittee as I will complete 32 years of active duty service this summer. It has been my privilege to serve as an Airman and serve alongside the extraordinary medical professionals throughout the Joint Team. I thank the Subcommittee for your steadfast support to the health and resilience of the Airmen, Sailors, Soldiers and Marines we serve.