United States Air Force

Presentation

Before the Senate Appropriations
Subcommittee on Defense

Defense Health Programs

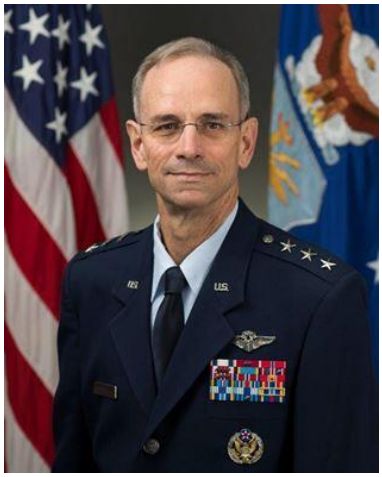
Witness Statement of
Lieutenant General (Dr.) Mark Ediger
Surgeon General of the Air Force

March 9, 2016

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 $5.9 billion, 44,000-person integrated health care delivery system serving 2.6 million beneficiaries at 75 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 AFB, Texas

ASSIGNMENTS
1. June 1986 - August 1988, Chief, Family Practice, Air Transportable Hospital Commander, 1st Medical Group, Langley AFB, Va.
2. August 1988 - July 1990, Flight Surgeon and Chief, Flight Medicine, 94th Fighter Squadron, Langley AFB, Va.
3. July 1990 - July 1992, Resident in Aerospace Medicine, USAF School of Aerospace Medicine, Brooks AFB, Texas
4. July 1992 - July 1994, Chief, Aeromedical Services, 325th Medical Group, Tyndall AFB, Fla.
5. July 1994 - July 1996, Chief, Aerospace Medicine Branch, and Chief, Professional Services Division, Headquarters Air Education and Training Command, Randolph AFB, Texas
6. July 1996 - July 1998, Chief, Aerospace Medicine Division, Air Force Medical Operations Agency, Bolling AFB, D.C.
7. July 1998 - July 2000, Command Surgeon, Air Force Special Operations Command, Hurlburt Field, Fla.
8. July 2000 - June 2002, Commander, 16th Medical Group, Hurlburt Field, Fla.
9. June 2002 - July 2003, Commander, 363rd Expeditionary Medical Group, Southwest Asia
10. July 2003 - July 2007, Command Surgeon, Headquarters U.S. Air Forces in Europe, Ramstein Air Base, Germany
11. July 2007 - September 2008, Command Surgeon, Headquarters Air Education and Training Command, Randolph AFB, Texas
12. September 2008 - July 2012, Commander, Air Force Medical Operations Agency, Lackland AFB, Texas

13. July 2012 – June 2015, Deputy Surgeon General, Headquarters U.S. Air Force, Washington, D.C.
14. June 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 June 2015)

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 Physiological 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 aircrew 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% 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% and inpatient dispositions by 2,763% 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% 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% 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% and Relative Value Units have grown more than 500%. Inpatient admissions have grown more than 400% and relative weighted product over 5000%.

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 health care 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% 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 health care 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.