United States Air Force

Presentation before the House Appropriations Committee, Subcommittee on Defense

FY 2013 Medical Programs

Statement of
Lieutenant General (Dr.) Charles B. Green
The Surgeon General of the Air Force

March 8, 2012

Not for publication until released by the House Appropriations Committee, Subcommittee on Defense

BIOGRAPHY

UNITED STATES AIR FORCE

LIEUTENANT GENERAL (DR.) CHARLES B. GREEN

Lt. Gen. (Dr.) Charles B. Green is the Surgeon General of the Air Force, Headquarters U.S. Air Force, Washington, D.C. General Green 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 Green 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 more than 42,800 people assigned to 75 medical facilities worldwide.

General Green was commissioned through the Health Professions Scholarship Program and entered active duty in 1978 after completing his Doctorate of Medicine degree at the Medical College of Wisconsin in Milwaukee. He completed residency training in family practice at Eglin Regional Hospital, Eglin AFB, Fla., in 1981, and in aerospace medicine at Brooks AFB, Texas, in 1989. He is board certified in aerospace medicine. An expert in disaster relief operations, he planned and led humanitarian relief efforts in the Philippines after the Baguio earthquake in 1990, and in support of Operation Fiery Vigil following the 1991 eruption of Mount Pinatubo.

General Green has served as commander of three hospitals and Wilford Hall Medical Center. As command surgeon for three major commands, he planned joint medical response for operations Desert Thunder and Desert Fox, and oversaw aeromedical evacuation for operations Enduring Freedom and Iraqi Freedom. He has served as Assistant Surgeon General for Health Care Operations and Deputy Surgeon General, prior to his current assignment.

EDUCATION

1974 Bachelor of Science degree in chemistry, University of Wisconsin-Parkside, Kenosha
1978 Doctorate in Medicine and Surgery, Medical College of Wisconsin, Milwaukee
1981 Residency in family practice, Eglin Regional Hospital, Eglin AFB, Fla.
1987 Air Command and Staff College, by seminar
1988 Master's degree in public health, Harvard University, Cambridge, Mass.
1989 Residency in aerospace medicine, Brooks AFB, Texas
2000 Air War College, by correspondence

ASSIGNMENTS

1. June 1978 - July 1981, family practice resident, later, chief resident, Eglin AFB, Fla.
2. July 1981 - August 1984, flight surgeon, U.S. Air Force Hospital, Mather AFB, Calif.
3. August 1984 - September 1985, officer in charge, Family Practice Clinic, Wheeler AFB, Hawaii
4. September 1985 - August 1987, Chief of Clinic Services, Hickam AFB, Hawaii
5. September 1987 - June 1988, student, graduate aerospace medical resident, Harvard University, Cambridge, Mass.
6. June 1988 - July 1989, resident in aerospace medicine, U.S. Air Force School of Aerospace Medicine, Brooks AFB, Texas
7. July 1989 - August 1991, Chief of Aerospace Medicine, and Commander, 657th Tactical Hospital, Clark AB, Philippines
8. September 1991 - August 1993, Commander, 65th Medical Group, Lajes Field, Portugal
9. August 1993 - August 1995, Commander, 366th Medical Group, Mountain Home AFB, Idaho
10. August 1995 - January 1997, Commander, 96th Medical Group, Eglin AFB, Fla.
11. January 1997 - July 1999, Command Surgeon, U.S. Central Command, MacDill AFB, Fla.
12. July 1999 - June 2001, Command Surgeon, North American Aerospace Defense Command, U.S. Space Command and Air Force Space Command, Peterson AFB, Colo.
13. June 2001 - July 2003, Command Surgeon, U.S. Transportation Command and Headquarters Air Mobility Command, Scott AFB, Ill.
14. July 2003 - July 2005, Commander, 59th Medical Wing, Wilford Hall Medical Center, Lackland AFB, Texas
15. July 2005 - August 2006, Assistant Surgeon General for Health Care Operations, Office of the Surgeon General, Bolling AFB, D.C.
16. August 2006 - August 2009, Deputy Surgeon General, Headquarters U.S. Air Force, Bolling AFB, D.C.
17. August 2009 - present, Surgeon General of the Air Force, Headquarters U.S. Air Force, Washington, D.C.

SUMMARY OF JOINT ASSIGNMENTS

1. January 1997 - July 1999, Command Surgeon, U.S. Central Command, MacDill AFB, Fla., as a colonel
2. July 1999 - June 2001, Command Surgeon, North American Aerospace Defense Command and U.S. Space Command, Peterson AFB, Colo., as a colonel
3. June 2001 - July 2003, Command Surgeon, U.S. Transportation Command, Scott AFB, Ill., as a brigadier general
4. July 2003 - July 2005, Director, DOD Region 6 (TRICARE South) Lackland AFB, Texas, as a major general

FLIGHT INFORMATION

Rating: Chief flight surgeon
Flight hours: 1,200
Aircraft flown: B-52, C-5, C-9, C-21, C-130, C-141, H-53, KC-135, T-43, F-15, F-16, P-3, T-37, T-38, UH-1 and UH-60

MAJOR AWARDS AND DECORATIONS
Distinguished Service Medal with oak leaf cluster
Defense Superior Service Medal with oak leaf cluster
Legion of Merit
Defense Meritorious Service Medal
Airman's Medal
Meritorious Service Medal with four oak leaf clusters
Joint Service Commendation Medal
Air Force Commendation Medal with two oak leaf clusters
Air Force Achievement Medal
National Defense Service Medal with bronze star
Armed Forces Expeditionary Medal
Humanitarian Service Medal with bronze star
Philippine Bronze Cross

PROFESSIONAL MEMBERSHIPS AND ASSOCIATIONS
American Medical Association
American College of Physician Executives
Fellow, Aerospace Medical Association
Fellow, American Academy of Family Physicians
Uniformed Services Academy of Family Physicians
Aerospace Medical Association
Society of U.S. Air Force Flight Surgeons (former President)
Air Force Association
Association of Military Surgeons of the United States

EFFECTIVE DATES OF PROMOTION
Captain June 18, 1978
Major May 26, 1984
Lieutenant Colonel May 25, 1990
Colonel May 31, 1994
Brigadier General Aug. 1, 2001
Major General Sept. 1, 2004
Lieutenant General Aug. 3, 2009

(Current as of February 2010)

Chairman Young, Ranking Member Dicks and distinguished members of the Committee, thank you for inviting me to appear before you today. The men and women of the Air Force Medical Service (AFMS) have answered our nation's call and maintained a standard of excellence second to none for more than a decade of sustained combat operations. We provide service members, retirees and families the best care America has to offer. We take tremendous pride in providing "Trusted Care Anywhere" for the nation.

We support the President's budget and the proposed changes to the military health benefit. I am confident that the recommendations included in the budget reflect the proper balance and the right priorities necessary to sustain the benefit over the long term. National health care costs continue to rise at rates above general inflation and DoD is not insulated from this growth as we purchase over 60 percent of our care from private sector. DoD beneficiaries' out-of-pocket costs with the proposed changes remain far below the cost-sharing percentage they experienced in 1995. We understand we cannot ask our beneficiaries to share more of the cost for health care without seeking significant internal efficiencies. We are increasing efficiency by reducing administrative costs, improving access, recapturing care, and introducing cutting-edge technology to better connect our providers and patients.

Ready, Better Health, Better Care, and Best Value are the components of the Quadruple Aim for the Military Health Services. To meet these goals, the AFMS set priorities to transform deployable capability, build patient-centered care, and invest in education, training and research to sustain world class health care. We have made significant inroads in each of these areas over the past year.

Transform Deployable Capability

In times of war there are always significant advances in the field of medicine. Today we are applying these lessons to shape future readiness and care. We have found new ways to manage blood loss and improve blood replacement. Significant improvements in the blood program improved transfusion capability and changed the way we use fluids to resuscitate patients. Air Force trauma surgeons in deployed hospitals better control hemorrhage and treat vascular injury by designing and using new arterial shunts that have been adopted by civilian trauma surgeons. These innovations contribute to a very low case fatality rate and allow earlier transport of casualties.

Through innovative training and quick thinking, Air Force, Army and Navy medics continue to perform miracles in field hospitals. Last spring in Balad, Iraq, our critical care air transport teams (CCATT) saved the life of a soldier who had suffered blunt force trauma to his chest, causing his heart to stop. After an unknown period without a pulse, there was significant risk of brain injury. Using coolers of ice, the team undertook a rare therapeutic hypothermia procedure to lower body temperature, decreasing tissue swelling and damage to the brain. The soldier was transported to Landstuhl Medical Center in Germany where his temperature was slowly raised, bringing him back to consciousness. Within four days of injury, the soldier arrived at Brooke Army Medical Center, San Antonio, Texas, and walked out of the hospital with thankful family members. Incredible ingenuity, dedication, and teamwork continue to save lives every day.

We have an impressive legacy of building highly capable deployable hospitals over the past decade. This year we have established 10 new Expeditionary Medical Support (EMEDS)

Health Response Teams (HRT). These newly tested and proven 10-bed packages enable us to arrive in a chaotic situation, provide emergency care within 30 minutes and perform surgery within 5 hours of arrival. The entire package is transportable in a single C-17, and full base operating support for the hospital requires only one additional C-17. The HRT was used successfully in a Trinidad humanitarian mission in April and will be our standard package to provide rapid battlefield medicine and humanitarian assistance. This year we will establish intensive training with the HRT and will expand its capability with additional modular sets to respond to specialized missions such as obstetrics, pediatrics or geriatrics required for humanitarian response.

We are also pursuing initiatives to improve air evacuation capability. New advances in ventilators allow us to move patients sooner and over longer distances with less oxygen. We pursued new capabilities for heart-lung bypass support by reducing the size of extracorporeal membrane oxygenation (ECMO) equipment. ECMO has been in use for many years transporting neonatal patients, and we now have critical care teams using this advanced technology for adult patient transportation. We moved the first patient on full heart lung bypass out of Afghanistan in 2011. We are working to miniaturize and standardize ECMO equipment so it can be operated by less specialized teams. David Grant Medical Center at Travis AFB, California, recently became the first DoD recipient of the smallest ECMO device. Known as CARDIOHELP, the device is light enough to be carried by one person and compact enough for transport in a helicopter or ambulance. Researchers will utilize CARDIOHELP to evaluate the effects of tactical, high altitude and long-haul flights on patients who require the most advanced life support. We continue to advance the science of patient transport moving the sickest of the sick, as we decrease the amount of time from point of injury to definitive care in the United States.

The insertion and integration of CCATT into the air evacuation system continues to be a dominant factor in our unprecedented high survival rates. These teams speed up the patient movement process, bring advanced care closer to the point of injury, free up hospital beds for new causalities, allow us to use smaller hospitals in theater and move patients to definitive care sooner. We have improved CCATT equipment with more wireless capability aboard aircraft to simplify connection of medical equipment to critical care patients. We are continuously finding better technologies for more accurate patient assessment in flight and working to standardize equipment and supplies used by coalition teams.

We developed and fielded the Tactical Critical Care Evacuation Team in 2011. This team was built to deliver the same level of care during intra-theater transport on non-AE platforms as that provided by our CCATT teams. Our first deployed team safely transported 130 critical patients on rotary aircraft. The team is composed of an emergency physician and two nurse anesthetists that separate and fly individually with a pararescue Airman or 68W to move the sickest patients. We are now able to move critical patients between Level II and Level III facilities in theater even more expeditiously, using either rotary or fixed wing aircraft.

The Theater Medical Information Program Air Force continues to make tremendous progress supporting the war-fighting community both on the ground and in the air. We leveraged existing information management and technology services to integrate with Line of the Air Force communication groups at all deployed Air Force ground-based units. This decreased end user devices, numbers of personnel at risk, and contractor-support requirements in theater. This integration allowed us to remotely support deployed units from state-side locations for the first time and with improved timeliness. Today, AFMS units are documenting all theater-based

patient care electronically, including health records within the air evacuation system, and securely moving information throughout the DoD healthcare system.

Build patient-centered care

At home, we continue to advance Patient-Centered Medical Home (PCMH) to improve delivery of peacetime healthcare. The foundation of patient-centered care is trust, and we have enrolled 920,000 beneficiaries into team-based, patient-centered care. Continuity of care has more than doubled with patients now seeing their assigned physician 80% of the time and allowing patients to become more active participants in their health care. PCMH will be in place at all Air Force Medical Treatment Facilities (MTFs) by June of this year. The implementation of PCMH is decreasing emergency room visits and improving health indicators.

We have also implemented pediatric PCMH, focused on improving well child care, immunizations, reducing childhood obesity and better serving special needs patients. A recent American Academy of Pediatrics study analyzed the impact of medical home on children. Their report concluded, "Medical home is associated with improved health care utilization patterns, better parental assessment of child health, and increased adherence with health-promoting behavior." We anticipate completing Air Force pediatric PCMH implementation this summer through simple realignment of existing resources.

Our PCMH teams are being certified by the National Committee for Quality Assurance (NCQA). NCQA recognition of PCMH is considered the current gold standard in the medical community, with recognition levels ranging from 1-3, 3 being the highest. To date, all MTFs who completed evaluation were officially recognized by NCQA as a PCMH, with 10 sites

recognized as a level 3. This level of excellence far exceeds that seen in the nation overall. An additional 15 Air Force sites will participate in the NCQA survey in 2012.

We are enabling our family health care teams to care for more complex patients through Project ECHO (Extension for Community Healthcare Outcomes). This program started at the University of New Mexico to centralize designated specialists for consultation by local primary care providers. ECHO allows us to keep patients in the direct care system by having primary care providers "reach back" to designated specialists for consultation. For example, rather than send a diabetic patient downtown on a referral to a TRICARE network endocrinologist, the primary care team can refer the case to our diabetes expert at the 59th Medical Wing, Lackland AFB, Texas, without the patient ever departing the clinic. ECHO now includes multiple specialties, and has been so successful, the concept has been adopted by the Mayo Clinic, Johns Hopkins, Harvard, DoD, and the VA.

Our personalized medicine project, Patient Centered Precision Care (PC2), which builds on technological and evidence-based genomic association, received final Institutional Review Board approval. We enrolled the first 80 patients this year with a goal of enrolling 2,000 patients in this research. PC2 will allow us to deliver state-of-the-art, evidence-based, personalized health care incorporating all available patient information. A significant aspect of PC2 is genomic medicine research, the advancement of genome-informed personalized medicine. With a patient's permission, we analyze Deoxyribonucleic Acid (DNA) to identify health risks and then ensure follow up with the health care team. De-identified databases will allow us to advance research efforts. Research groups can determine associations or a specific area where they think there may be merit in terms of how we can change clinical practice. This research

will likely change the way we view disease and lead to much earlier integration of new treatment options.

MiCare is currently deployed to our Family Practice training programs and will be available at 26 facilities before the end of 2012. This secure messaging technology allows our patients to communicate securely with their providers via email. It also allows our patients to access their personal health record. Access to a personal health record will provide the ability to view lab test results at home, renew medications and seek advice about non-urgent symptoms. Healthcare teams will be able to reach patients via MiCare to provide appointment reminders, follow up on a condition without requiring the patient to come to the MTF, provide medical test and referral results, and forward notifications on various issues of interest to the patient. We anticipate full implementation by the end of 2013.

We are also testing incorporation of smart-phones into our clinics to link case managers directly to patients. Linking wireless and medical devices into smart phones allows the patient to transmit weight, blood pressure or glucometer readings that are in high risk parameters directly to their health team for advice and consultation. Patients with diabetes or congestive heart failure can see significant reductions in hospitalizations when interventions with the health care team are easily accessible on a regular basis. This improves quality of life for the diabetic or cardiology patient, reduces health care costs, and increases access for other patients. We have a pilot effort underway with George Washington University Hospital to use this tool in diabetes management.

Safeguarding the well-being and mental health of our people while improving resilience is a critical Air Force priority. We remain vigilant with our mental health assessments and

consistently have Post-Deployment Health Reassessment completion rates at 80 percent or higher for Active Duty, Guard and Reserve personnel. In January 2011, we implemented Section 708 of the 2010 National Defense Authorization Act for active duty Airmen, and in April 2011, for the Reserve Component. The two-phased approach requires members to complete an automated questionnaire, followed by a person-to-person dialogue with a trained privileged provider. Whenever possible, these are combined with other health assessments to maximize access and minimize inconvenience for deployers. Each deployer is screened for post-traumatic stress disorder (PTSD) four times per deployment including a person-to-person meeting with a provider.

Although Air Force PTSD rates are rising, the current rate remains low at 0.8 percent across the Air Force. Our highest risk group is explosive ordnance disposal at about 7 percent, with medical personnel, security forces, and transportation at less risk, but higher than the Air Force baseline. Our mental health providers, including those in internships and residencies, are trained in evidence-based PTSD treatments to include Prolonged Exposure, Cognitive Processing Therapy and Cognitive Behavioral Couples Therapy for PTSD. "Virtual Iraq/Afghanistan" uses computer-based virtual reality to supplement Prolonged Exposure Therapy at 10 Air Force sites. Diagnosis is still done through an interview, supported by screening tools such as the PTSD Checklist (PCL) and other psychological testing as clinically indicated.

We are working closely with Air Force leadership to inculcate healthy behaviors. Comprehensive Airmen Fitness focuses on building strength across physical, mental and social domains. Airman Resiliency Training (ART) provides a standardized approach to pre-exposure preparation training for redeploying Airmen, including tiered training that recognizes different

risk groups. Traumatic stress response teams at each base foster resiliency through preparatory education and psychological first-aid for those exposed to potentially traumatic events.

The Deployment Transition Center (DTC) at Ramstein AB, Germany, soon to be 2 years old, provides an effective reintegration program for our redeploying troops. More than 3,000 deployers have now processed through the DTC. A study of the first 800 Airmen to go through the DTC, compared with 13,000 Airmen matched to demographics, mission set, and level of combat exposure, demonstrated clear benefit from the DTC. Analyzing their PDHRAs, Airmen who attended the DTC showed positive results -- significantly fewer symptoms of Post Traumatic Stress, lower levels of alcohol use, and lower levels of conflict with family/coworkers. This study provided solid evidence that the DTC helps Airmen with reintegration back to their home environment. We are now partnering with the RAND Corporation in two other studies, looking at the overall Air Force Resilience Program and studying the effectiveness of the current ART program.

While we experienced a drop in the active duty suicide rate in 2011, we remain concerned. Guard and Reserve suicide levels have remained steady and low. The major risk factors continue to be relationship, financial and legal problems, and no deployment or history of deployment associations have been found. We strive to find new and better ways to improve suicide prevention efforts across the Total Force. By summer of this year, we will embed behavioral health providers in primary care clinics at every MTF. The Behavioral Health Optimization Program reduces stigma by providing limited behavioral health interventions outside the context of the mental health clinic, offering a first stop for those who may need counseling or treatment. The Air Reserve Components instituted on-line training tools and products that support ACE (Ask, Care, Escort), our peer-to-peer suicide prevention training. The

Air Force Reserve Command also added a new requirement for four deployment resilience assessments beginning last April.

We are increasing our mental health provider manning over the next 5 years with more psychiatrists, psychologists, social workers, psychiatric nurse practitioners, and technicians. We increased Health Professions Scholarship Program (HPSP) scholarships for psychologists, as well as psychiatry residency training billets and the psychology active duty PhD program and internship billets. To enhance social worker skills, we placed social workers in four internship programs and dedicated HPSP scholarships and Health Professions Loan Repayment Program slots for fully qualified accessions. Accession bonuses for fully qualified social workers were approved for FY12 for 3- and 4-year obligations. These actions will help us to meet mental health manning requirements for both joint deployment requirements and at home station in compliance with Section 714 in the 2010 National Defense Authorization Act. Air Force tele-mental health is now in place at 40 sites across the Air Force, and is planned for a total of 84 sites..

Like our sister Services, the Air Force continues to be concerned about, and focused on, the consequences of traumatic brain injury (TBI). We fully implemented TBI testing across the Air Force, and collected more than 90,000 ANAM assessments in the data repository. The Air Force accounts for 10-15 percent of total TBI in the military with approximately 4 percent of deployment-associated TBI. Most Air Force cases, more than 80 percent, are mild in severity. Of all our completed post-deployment health assessments and reassessments, less than 1 percent screened positive for TBI with persistent symptoms.

Despite our relatively lower incidence, the Air Force continues to work with DoD partners to better understand and mitigate the effects of TBI. In collaboration with Defense and Veterans Brain Injury Center, Air Force and Army radiologists at the San Antonio Military Medical Center (SAMMC) are working jointly to study promising neuroimaging techniques including volumetric MRI using the FDA-approved software NeuroQuant, functional MRI, spectroscopy, and diffusion tensor imaging to identify structural changes that may result from TBI. Ongoing studies will find more definitive answers to this complex diagnostic and treatment problem..

As co-chairman of the Recovering Warrior Task Force, I have come to understand all Services Wounded Warrior Programs. I have been on site visits with our committee as we seek to discern best practices to help our wounded, ill and injured members recover. The joint efforts of DoD and the Department of Veterans Affairs to streamline the Integrated Delivery Evaluation System (IDES) are paying dividends. In the Air Force, we are augmenting pre-Medical Evaluation Board (MEB) screening personnel to streamline IDES processing. Our electronic profile system gives us full visibility of those in the process and close coordination with the VA is reducing the time to complete the IDES processing.

Invest in Education, Training and Research

Providing "Trusted Care Anywhere" requires our people to have the best education and training available to succeed in our mission. We strive to find new and better ways to ensure our Airmen not only survive but thrive.

This is the goal of the Medical Education and Training Campus (METC), and it truly is a joint success story. METC has already matriculated 10,000 graduates from the Army, Navy and Air Force, and now has numerous international students enrolled. The majority of the Services' education and training programs have transferred to METC, and the remainder will transfer during the course of this year. The Institute for Credentialing Excellence (ICE) awarded METC the ICE Presidential Commendation for the pharmacy technician program and praised it as being the best program in the United States.

Air Force graduate medical education (GME) programs continue to be the bedrock for recruiting top-notch medics. Since the 1970s, many of our GME programs have been affiliated with renowned civilian universities. These partnerships are critical to broad-based training and build credibility in the U.S. and international medical communities. GME residencies in Air Force medical centers develop graduates who are trained in humanitarian assistance, disaster management, and deployment medicine. National recognition for top quality Air Force GME programs improves our ability to recruit and retain the best. First-time pass rates on specialty board exams exceeded national rates in 26 of 31 specialty areas, and stand at 92 percent overall for the past 4 years.

Over the next few years, we will transform training to support new assets in air evacuation and expeditionary medical support. Flight nurse and technician training and AE contingency operations training curriculums have been entirely rewritten to capture lessons from 10 years of war. The Centers for Sustainment of Trauma and Readiness Skills – C-STARS – in Baltimore, St. Louis and Cincinnati, have been extraordinarily successful in maintaining wartime skills. We have expanded training sites to establish sustainment of traumas skills -- Sustainment

of Trauma and Resuscitation Skills Programs (STARS-P) -- to University of California Davis, Scottsdale, University of Nevada- Las Vegas, and Tampa General Hospitals. This will include greater use of simulation at C-STARS, STARS-P, and other Air Force medical sites. We have many testimonials from deployed graduates who credit their competence and confidence in theater to C-STARS and STARS-P training. We will continue efforts to expand this training so we will have full-up trauma teams and Critical Care Air Transport teams that are always ready to go to war.

One of our most significant partners in GME and resource-sharing is the Department of Veterans Affairs. We are proud of our six joint ventures, 59 sharing agreements and 63 Joint Incentive Fund (JIF) projects, all win-wins for the military member, veteran and American taxpayer. All four Air Force JIF proposals submitted for FY 2012 were selected. These include a new CT Scan at Tyndall AFB, FL, that will also benefit the Gulf Coast VA Health Care System; establishment of an orthopedic surgery service for Mountain Home AFB, Idaho, and the Boise VAMC; funding for an additional cardiologist at Joint Base Elmendorf-Richardson and the Alaska VA Health Care System – critical to reducing the number of patients leaving our system of care; and an ophthalmology clinic at Charleston with the Naval Health Clinic Charleston and the Charleston VA Medical Center. The JIF program is extremely helpful in supporting efficiencies that make sense in the federal government, while improving access to care for our beneficiaries.

Collaboration with the VA in the Hearing Center of Excellence (HCE) continues as we pursue our goals of outreach, prevention, enhanced care, information management, and research to preserve and restore hearing. Compounding hearing loss related to noise, the effect of

improvised explosive devices (IEDs) that military personnel experience in Iraq and Afghanistan expands the threat and damage to the audiovestibular system. Traumatic brain injury may damage the hearing senses and the ability to process sound efficiently and effectively. Dizziness is common, and almost half of service members with TBI complain of vertigo following blast exposure.

We are coordinating and integrating efforts with the other congressionally mandated centers of excellence to ensure the clinical care and rehabilitation of the nation's wounded, ill and injured have the highest priority. Partnering with the Defense and Veterans Eye Injury Registry has resulted in the Joint Theater Trauma Registry adding ocular and auditory injury modules to look at the effect and relation eye and ear injury has on TBI and psychological health rehabilitation. And the Vision Center of Excellence under Navy lead and HCE have contributed to the planning, patient management, and clinical guidelines with the National Intrepid Center of Excellence, the Center for the Intrepid, and within the Institute of Surgical Research.

We have expanded our research with the opening of the new School of Aerospace Medicine at Wright Patterson and our collaborative efforts with the Army in the San Antonio Military Medical Center. The 59th Medical Wing at Lackland AFB, Texas, is using laser treatment to improve range of motion and aesthetics in patients with burn scars. In the 10 subjects enrolled to date in the research, the laser treatments have resulted in an immediate reduction in scar bulk, smoothing of irregularities, and the production of scar collagen. The scars have also shown improved pliability, softness and pigmentation. This is encouraging for our wounded warriors and Service members who have received thermal or chemical burns.

Another promising laser initiative is the Tricorder Program, a collaboration effort with the University of Illinois, Chicago, designed to detect/characterize laser exposure in "real time," assisting in the development of force health protection measures, such as laser eye protection. Air Force and Navy testers evaluated the prototype laser sensors in simulated air and ground field environments. An upcoming exercise with the FBI Operational Technology Division will assess the laser sensor for forensic capability in a domestic aircraft illumination scenario.

Another collaborative effort, with the Department of Homeland Security, is the development of an environmental/medical sensor integration platform that provides real-time data collection and decision support capability for medical operators and commanders, integrating environmental and medical sensor data from the field into a hand-held platform. The sensor integration platform was demonstrated successfully several times, including its deployment for environmental monitoring capability with the Hawaii National Guard, where the platform quadrupled Hawaii's radiation monitoring capability after the tsunami in Japan. It is now the backbone of Hawaii's state civil defense system real-time environmental monitoring capability.

The U.S. Air Force School of Aerospace Medicine (USAFSAM), Wright-Patterson AFB, Ohio, developed the Cone Contrast Test (CCT) for detection of color vision deficiency. The CCT was selected as a winner of the 2012 Award for Excellence in Technology Transfer, presented annually by the Federal Laboratory Consortium to recognize laboratory employees who accomplished outstanding work in the process of transferring a technology developed by a federal laboratory to the commercial marketplace. The technology was developed by vision scientists in USAFSAM's Aerospace Medicine Department and uses computer technology to

replace the colored dot Ishihara Plates developed in the early 1900s. The CCT indicates vision deficiency type and severity, and can distinguish hereditary color vision loss from that caused by disease, trauma, medications, and environmental conditions – ensuring pilot safety while facilitating the detection and monitoring of disease.

The Way Ahead

I look back 10 years to 9/11 and marvel at how far we have come in a decade. While sustaining the best battlefield survival rate in the history of war, we have simultaneously completed complex Base Realignment and Closure projects, and enhanced our peacetime care worldwide. We changed wartime medicine by moving the sickest of the sick home to the United States within 3 days, while shifting one million enrolled patients into team based, patient centered care that improved continuity of care 100 percent. One thing has not changed…the talent, courage, and dedication of Air Force medics still inspires me every day! As I retire later this year, I know that I leave our Air Force family in exceptional hands. Air Force medics will always deliver "Trusted Care, Anywhere" for this great nation.

The AFMS will work shoulder to shoulder with our Army, Navy and DoD counterparts to be ready, and provide better health, better care, and best value to America's heroes. Together we will implement the right governance of our Military Health System. We will find efficiencies and provide even higher quality care with the resources we are given. I thank this Committee for your tremendous support to military medics. Our success, both at home and on the battlefield, would not be possible without your persistent and generous support. Thank you!