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STATEMENT BY

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Chairwoman Davis, Representative Wilson, and distinguished members of the Military Personnel Subcommittee, thank you for inviting us to discuss military medicine and our respective Service medical programs. Now in my third Congressional hearing cycle as the Army Surgeon General and Commanding General, US Army Medical Command (MEDCOM), I can tell you that these hearings are valuable opportunities for me to talk about the accomplishments and challenges of Army Medicine and to hear your collective perspectives regarding military healthcare. You and your staff members ask some difficult questions, but these questions help keep us focused on those we serve--the Soldiers, Sailors, Marines, Airmen, Coast Guardsmen, Family members, and Retirees as well as the American public. I hope you also find these hearings beneficial as you review the President's budget submission, which this year fully funds the Army Medical Department's needs, and determine priorities and funding levels for the next fiscal year.

The US Army Medical Department is a complex, globally-deployed, and world class team. My command element alone, the MEDCOM, is an $11 billion international health improvement, health protection, emergency response and health services organization staffed by 70,000 dedicated Soldiers, civilians, and contractors. I am in awe at what these selfless servants have done over the past years—their accomplishments have been quietly, effectively, powerfully successful. While we have experienced our share of crises and even tragedies, despite eight years of continuous armed conflict for which Army Medicine bears a heavy load, every day our Soldiers and their Families are kept from injuries, illnesses, and combat wounds through our health promotion and prevention efforts; are treated in cutting-edge fashion when prevention fails; and are supported by an extraordinarily talented medical force to include those who serve at the side of the Warrior on the battlefield. We mourn the loss of 26 teammates in the Fort Hood shootings—six dead and 20 wounded—but are inspired by the resolve shown by their units to continue their missions and the exemplary

performance of the 467th and 1908th Medical Detachments serving in Afghanistan today.

One area of special interest to the Congress is our comprehensive effort to improve warrior care from point of injury through evacuation and inpatient treatment to rehabilitation and return to duty. I am convinced the Army has made some lasting improvements, and I was recently heartened to read the comments of a transitioning Warrior that reinforced these perceptions. She commented:

> As I look back in the past I am able to see with a reflective eye…the people that have helped me fight this battle, mostly my chain of command, who have always stood beside me instead of in front of me. They have gone out of their way to do what was best for me and I cannot say I would be here still if I hadn't had such wonderful support…. This is my story at the WTB and all in all, I just had to make aware to everyone that has helped that I am very grateful and I truly appreciate all of the work you have done for me.

There is nothing more gratifying than to care for these wounded, ill, and injured heroes. We in Army Medicine continue to focus our efforts on our Warriors in Transition and I want to thank Congress for its unwavering support. The support of this committee has allowed us to hire additional providers, staff our warrior transition units, conduct relevant medical research, and build healing campuses. In the remainder of my testimony today, I will discuss how we are providing optimal stewardship of the investment the American public and this Committee has made in Army Medicine.

We lead and manage Army Medicine through the Kaplan & Norton Balanced Scorecard performance improvement framework that I introduced to you in last year's testimony. The Scorecard balances missions and resources across a broad array, while ensuring that near-term measures of success are aligned with longer-term, more strategic results. This balancing is depicted on the Scorecard's Strategy Map, which shows how we marshal our resources, train and develop our people, and focus our internal processes and efforts so as to balance competing goals. Ultimately our means, ways, and ends contribute

toward accomplishing our mission and achieving our strategic vision. The five strategic themes that guide our daily efforts are:

- Maximize Value in Health Services
- Provide Global Operational Forces
- Build the Team
- Balance Innovation with Standardization
- Optimize Communication and Knowledge Management

Although distinct themes, they inevitably overlap and weave themselves through everything we do in Army Medicine.

The first strategic theme**--Maximize Value in Health Services**– is built on the belief that providing high quality, evidence-based services is not only the right for our Soldiers and Families; it results in the most efficient use of resources within the healthcare system, thus delivering value to not only our patients, but indeed, the Nation. In fact, what we really want to do is move from a healthcare system to a system for health.

We have resisted simply inventing a new process, inserting a new diagnostic test or therapeutic option *in vacuo* or adding more layers of bureaucracy but are truly adding value to the products we deliver, the care we provide, and the training of our people. This requires focusing on the clinical outcome for the patient and the community and maintaining or even reducing the overall resource expenditure needed to achieve this objective. It has occurred through adoption of evidence-based practices and reducing unwarranted practice variation--even "unwarranted administrative practice variation" for the transactional processes in our work. As one example of this, Army Medicine is expanding upon our Performance Based Budget model to link resources to clinical and quality outputs. The Healthcare Effectiveness and Data Information Set (HEDIS^{R}) is a tool used by more than 90% of America's health plans (> 400 plans) to measure performance on important dimensions of care, namely, the prevention of disease and evidence-based treatments for some of the most common and onerous chronic illnesses. The measures are very specifically

defined, thus permitting comparison across health plans. Since 2007, we have been providing financial incentives to our hospitals, clinics and clinicians for superior compliance in key HEDIS measures. Currently, we track nine measures and compare our performance to national benchmarks. Our performance has improved on each measure, in one case by 63%. We have demonstrated that these incentives work to change organizational behavior to achieve desired outcomes in our health system. Put quite simply, our beneficiaries, patients and communities are receiving not only better access to care but better care—objectively measured.

As the DoD budget and health-/healthcare-related costs come under increasing scrutiny, this element of our strategy will be even more critical for us. As the United States struggles to address improvements in health and healthcare outcomes while stabilizing or reducing costs of our national system of care, we in Army Medicine and the Military Health System will surely keep the goal of maximizing value in our cross-hairs...or we will find our budgets tightening without a way to measure the effects on our patients' and our communities' health and well-being.

All of these remarkable achievements would be without meaning or importance to our Soldiers, their Families, and our patients if we do not provide access and continuity of care, especially within the direct care system of our medical centers, community hospitals, health centers, and clinics. I am looking carefully at my commanders' leadership and success in ensuring that their medical and dental treatment facilities provide timely access and optimize continuity of care. We have undertaken major initiatives to improve both access and continuity—this is one of the Army Chief of Staff's and my top priorities. After conducting thorough business case analyses, Army Medicine is expanding product lines in some markets and expanding clinical space in others. At 14 locations, we are establishing Community Based Primary Care Clinics by leasing and operating clinics located in off-post communities that are close to where active duty Families live, work, and go to school. These clinics will provide a patient-centered medical home for Families and will provide a range of benefits:

- Improve the readiness of our Army and our Army Family
- Improve access to and continuity of care
- Reduce emergency room visits
- Improve patient satisfaction
- Implement Best Practices and standardization of services
- Increase physical space available in military treatment facilities (MTFs)
- Improve physical and psychological health promotion and prevention

Along with the rest of the Military Health System, Army Medicine is embracing the Patient-Centered Medical Home concept, which is a recommended practice of the National Committee for Quality Assurance and is endorsed by a number of medical associations, several large third-party payers, and many employers and health plans. The Patient-Centered Medical Home improves patient satisfaction through its emphasis on appropriate access, continuity and quality, and effective communication. The goal is simple: consult with one consistent primary care provider-nurse team for all your medical needs. The seven core features of the Medical Home are:

- Personal Primary Care Provider (primary care manager/team)
- Primary Care Provider Directed Medical Practice (the primary care manager is team leader)
- Whole Person Orientation (patient centered, not disease or provider centered)
- Care is Coordinated and/or Integrated (across all levels of care)
- Quality and Safety (evidenced-based, safe medical care)
- Enhanced Access (meets access standards from the patient perspective)
- Payment Reform (incentivizes the development and maintenance of the medical home)

I look for 2010 to be the year Army Medicine achieves what we set out to improve two years ago in access and continuity, key elements of our covenant with the Army Family, led by our Chief of Staff and Secretary of the Army.

Unlike civilian healthcare systems that can focus all of their energy and resources on providing access and continuity of care, the Military Health System has the equally important mission to **Provide Global Operational Forces.**

The partnership between and among the medical and line leadership of Operations Iraqi Freedom and Enduring Freedom, Central Command, Army Forces Command, US Army Reserve Command, National Guard Bureau, Army Medical Department Center & School, Medical Research and Materiel Command, Army G3/5/7, and others has resulted in a dynamic reconfiguration of the medical formations and tactics, techniques, and procedures required to support the deployed Army, joint and coalition force. Army Medicine has never missed movement and we continue to achieve the highest survivability rate in the history of warfare. Army Medicine leaders have never lost sight of the need to first and foremost make a difference on the battlefield.

This will not change--it will even intensify in 2010 as the complexity of the missions in Afghanistan increases. And this is occurring even while the need to sustain an Army and joint force which is responsibly withdrawing from Iraq puts more pressure on those medics continuing to provide force health protection and care in Operation Iraqi Freedom. This pressure on our All-Volunteer Army is unprecedented. Healthcare providers, in particular, are subject to unique strains and stressors while serving in garrison as well as in deployed settings. The MEDCOM has initiated a defined program to address provider fatigue with current efforts focused on sustaining the healthy force and identifying and supporting higher risk groups. MEDCOM has a healthy healthcare workforce as demonstrated by statistically significant lower provider fatigue and burnout than: The Professional Quality of Life Scale (ProQol) norming sample of 1187 respondents; and Sprang, Clark and White-Woosley's study of 222 civilian behavioral health (BH) providers. But as our Chief of Staff of the Army has told

us: this is not an area where we just want to be a little better than the other guy—we want the healthiest and most resilient healthcare provider workforce possible.

The Provider Resiliency Training (PRT) Program was originally designed in 2006, based on Mental Health Advisory Team findings. The US Army Medical Department Center and School (AMEDDC&S) developed a military-specific model identifying "provider fatigue" as the military equivalent of compassion fatigue. In June of 2008, MEDCOM implemented a mandated PRT program to educate and train all MTF personnel to include support staff on the prevention and treatment of signs and symptoms of provider fatigue. The stated goal of PRT is to mitigate the negative effects of exposure to combat, to deployment, to secondary trauma from caring for the casualties of war as well as the unremitting demand for healthcare services and from burnout. All will ultimately improve organizational effectiveness. The AMEDDC&S currently offers three courses in support of the MEDCOM PRT: the Train the Trainer Course; the Professional Resiliency Resident Course; and the PRT Mobile Training.

None of our goals and themes would be achievable without the right mix of talented professionals within Army Medicine and working with Army Medicine; what our Balanced Scorecard refers to as **Build The Team**: a larger, more inclusive joint medical team; an adaptive & responsive interagency team (VA, DHS, DHHS/NIH/NIAID, CDC, USDA, etc.); an effective coalition team; and a military-civilian/academic-operational team. The teams we build must be aligned with the Army, Defense, and National Military Strategy and long-term goals, not based solely on personalities and the arcane interests of a few. My Deputy Surgeon General, subordinate leaders, and others have been increasingly more deliberate and disciplined in how we form and sustain these critical partnerships.

Effective joint, interagency and coalition team-building has been a serious challenge for some time now. I see the emphasis on our ability to craft these teams grow in 2010. The arrival of September 15, 2011--the deadline for the 2005 BRAC--will be one of the key milestones and tests of this skill. My regional commanding generals in San Antonio and Washington, DC have taken lead roles

in this endeavor. Let there be no question among those who underestimate our collective commitment to working as a team and our shared vision to serve the Nation and protect and care for the Warriors and his or her Family—*we are One Team!*

In addition to building external teams, we need to have the right mix and quality of personnel internal to Army Medicine. In Fiscal Year 2010 (FY10) and continuing into FY11 the Army requested funding for programs to improve our ability to attract and retain the professional workforce necessary to care for our Army. Our use of civilian hiring incentives (Recruiting, Retention, & Relocation) increased in FY10 by $90M and should increase by an additional $30M in FY11. In FY11, civilian hiring incentives will equate to 4.8% of total civilian pay. We have instituted and funded civilian recruiting programs at the MEDCOM, regional, and some local levels to seek qualified healthcare professionals. For our military workforce, we are continuing our successful special salary rates, civilian nurse loan repayment programs, and civilian education training programs. Additionally, our Health Professional Scholarship Program and loan repayments will increase in FY10 by $26M and continue into FY11. This program supports 1,890 scholarships and 600 participants in loan repayments—it is as healthy a program as it has ever been. Let me point out that our ability to educate and train from within the force—through physician, nursing, administrative, medic and other programs in professional education—is a vital capability which we cannot permit to be degraded or lost altogether. In addition to providing essential enculturation for a military healthcare provider, administrator and leader, these programs have proven to be critical for our retention of these professionals who are willing to remain in uniform, to deploy in harm's way and to assume many onerous duties and assignments in exchange for education in some of the Nation's best programs. Army and Military Graduate Medical, Dental, Nursing and other professional education has undoubtedly played a major role in our remaining a viable force this far into these difficult conflicts.

The theme of evidence-based practice runs through everything we do in Army Medicine and is highlighted throughout our Balanced Scorecard. Evidence-based practices mean integrating individual clinical expertise with the best available external clinical evidence from systematic research. Typical examples of evidence-based practices include implementation of clinical practice guidelines and dissemination of best practices. I encourage my commanders and subordinate leaders to be innovative, but across Army Medicine we **Balance Innovation with Standardization** so that all of our patients are receiving the best care and treatment available. Standardization efforts include:

- The MEDCOM AHLTA Provider Satisfaction (MAPS) initiative
- Care of combat casualties through the Joint Theater Trauma System (JTTS), enabled by the use of a Joint Theater Trauma Registry (JTTR)—both of which I will discuss further below—which examines every casualty's care and outcome of that care, including en route care during medical evacuation (MEDEVAC) with an eye toward standardizing care around the best practices
- The Virtual Behavioral Health Pilot (aka Comprehensive Behavioral Health Integration) being conducted at Schofield Barracks and Ft. Richardson
- Our initiative to reduce Ventilator Associated Pneumonia events in our ICUs by adopting not only industry best practices, but sending out an expert team of MEDCOM professionals to evaluate our own best practices and barriers to success
- Our standardized events-driven identification and management of mild TBI/concussion on the battlefield coupled with early diagnosis and treatment of Post-Traumatic Stress Reactions/Acute Stress Reactions as close in time and space to the events which lead to these reactions

Programs which are in the process of maturing into best practices for more widespread dissemination are:

- The Confidential Alcohol Treatment & Education Pilot (CATEP)

- The standardized and now automated Comprehensive Transition Plan for Warriors In Transition in our WTUs and CBWTUs
- A standardized program to "build trust in Army Medicine" through hospitality and patient/client/customer service in our medical, dental, and veterinary treatment facilities and throughout the MEDCOM
- Standardized support of our Active, National Guard, and Reserve forces engaged in the reiterative, cyclic process of the Army Force Generation Model (ARFORGEN) including but not restricted to preparation for combat medics and medical units, Soldier Readiness Processing of deploying units, ensuring full medical readiness of the force, restoration of dental and behavioral health upon redeployment, support of the total Army Family while Soldiers are deployed, and provision of healthcare for mobilized and demobilizing Reserve Component Soldiers and their Families.

These and many other standardized efforts reflect a change in how we do the business of Army Medicine. We can no longer pride ourselves on engaging in a multiplicity of local "science projects" being conducted in a seemingly random manner by well-meaning and creative people but without a focus on added value, standard measures of improved outcomes, and sustainability of the product or process. Even the remarkably agile response to the behavioral health needs-assessment and ongoing requirements at Fort Hood following the tragic shooting were conducted in a very deliberate and effective fashion which emphasized unity of command and control, alignment of all efforts and marshalling of resources to meet a well-crafted and even exportable community behavioral health plan.

The emphasis which Army Medicine leaders have placed on disciplining these innovative measures so as to harvest best practices, subject them to validation at other sites, and rapidly proliferate them across the MEDCOM and Army in a standard fashion has been remarkable. It is the essence of **Optimizing Communication and Knowledge Management**.

Many of our goals, internal processes and enablers, and resource investments are focused on the knowledge hierarchy: collecting data; coalescing it into information over time and space; giving it context to transform it into knowledge; and applying that knowledge with careful outcome measures to achieve wisdom. This phenomenon of guiding clinical management by the emergence of new knowledge is perhaps best represented by Dr. Denis Cortese, former President and Chief Executive Officer of the Mayo Clinic. He laid out this schematic earlier this year after participating in a set of workshops which centered on healthcare reform. We participated to explore how the Federal system of care might contribute to these changes in health improvement and healthcare delivery.

What Dr. Cortese depicted is a three-domain ideal representation of healthcare delivery and its drivers. We share this vision of how an ideal system should operate. His notion is that this system of care should focus on optimizing individual health and healthcare needs, leveraging the knowledge domain to drive optimal clinical practices. This transition from the knowledge domain to the care delivery domain now takes 17 years. The clinical practice domain then informs and drives the payer domain to remunerate for effective clinical outcomes. What occurs too often today is what I call “widget-building” or “turnstile” medical care which chases remuneration for these encounters—too often independent of whether it is the best treatment aimed at the optimal outcome. To transform from a healthcare system to a system for health, we need to change the social contract. No longer should we be paid for building widgets (number of clinic visits or procedures), rather, we should be paid for preventing illness and promoting healthy lifestyles. And when bad things happen to good people—which severe illness and injury and war continuously challenge us with—we should care for these illnesses, injuries and wounds by the most advanced evidence-based practices available, reducing unwarranted variation in practice whenever possible.

Our Military Health System is subtly different in that we have two practice domains—garrison and battlefield. Increasingly, we leverage the clinical domain

to provide feedback into the knowledge domain—with the help of the electronic health record—AHLTA—and specialized databases. We do this in real time and all under the umbrella of the regulatory domain which sets and enforces standards.

The reengineering of combat trauma care borne of rapid turnaround of new-found, data-driven knowledge to new materiel and doctrinal solutions is one of the premier examples of this concept. The simplest example is our continuous re-evaluation of materials and devices available to Soldiers, combat life savers, combat medics and the trauma team at the point of injury and in initial trauma management and the intellectual framework for their application to rapidly improve outcomes from combat-injured Warriors.

After making the first major change in 40 years to the field medical kit—the Improved First Aid Kit (IFAK)—we have modified the contents of the kit at least three times since May 2005 based upon ongoing reviews of the effectiveness of the materials and head-to-head comparisons to competing devices or protocols. In like fashion, we have modified protocols for trauma management through active in-theater and total systemic analyses of the clinical outcomes deriving from the use of materials and protocols.

The specialized system in this endeavor is a joint and inter-agency trauma system which creates the equivalent of a trauma network available for a major metropolitan area or geographic region in the US but spread across three continents, 8000 miles end-to-end—the Joint Theater Trauma System (JTTS). Staffed and led by members of the Army, Navy, Marine Corps and Air Force, it is truly a joint process. It is centered on the US Army Institute of Surgical Research in San Antonio, Texas. The specialized database in this effort and an essential element of the JTTS is the Joint Theater Trauma Registry (JTTR)—a near-comprehensive standardized database which has been developed for each casualty as soon as possible in the treatment evacuation chain—usually at level II or III healthcare in theater. One of the most important critical applications of the JTTS and JTTR at present is the ongoing analysis of MEDEVAC times and the casualties being managed during evacuation. This is our effort to minimize

the evacuation time for casualty in a highly dispersed force which is subjected in Afghanistan to the “tyranny of terrain and weather.”

The decisions about where and how many trauma teams should be placed around the theater of operation as well as where to place MEDEVAC crews and aircraft is a delicate balancing act—one which balances the risk of putting care providers and MEDEVAC crews and helicopters at risk to the enemy and the elements with the risk of loss of life and limb to Warriors whose evacuation may be excessively prolonged. The only way to fully understand these competing risks is to know the outcomes of care and evacuation by injury type across a wide range of MEDEVAC missions. This analysis will help us understand if we still require a “Golden Hour” for every casualty between initial management at the point of injury and arrival at a trauma treatment site (like an Army Forward Surgical Team, the Marine Forward Resuscitative Surgical System or a Combat Support Hospital) or whether we now have a “Platinum 15 Minutes” at the point of injury which extends the Golden Hour.

This methodology and these casualty data are being applied to the next higher level of inquiry: how do we prevent injury and death of our combatants from wounds and accidents at the point of potential injury? Can we design improved helmets, goggles, body armor, vehicles and aircraft to prevent serious injuries? These questions are answered not only through the analysis of wound data, both survivable and non-survivable, through the JTTS and data from the virtual autopsy program of the Office of the Armed Forces Medical Examiner, but also by integrating these data with information from the joint operational, intelligence, and materiel communities to enable the development of improved tactics, techniques, and procedures and materiel improvements to protective equipment worn by the Warriors or built into the vehicles or aircraft in which they were riding. This work is performed by the Joint Trauma Analysis and Prevention of Injury in Combat program, a component of the DoD Blast Injury Research Program directed by the National Defense Authorization Act for 2006. To date it has been an effective means of improving the protection of Warriors and

preventing serious injury and death even as the enemy devises more lethal and adaptive weapons and battlefield tactics, techniques, and procedures.

We in Army Medicine are applying these knowledge management tools and approaches to the improvement of health and the delivery of healthcare back home as well. We are coupling these knowledge management processes with a funding strategy which incentivizes our commanders and clinicians to balance productivity—providing episodes of care—with optimal outcome: the right kind of prevention and care.

Among our greatest team achievements in 2009 was our effort to better understand how we communicate effectively with our internal and external stakeholders, patients, clients and customers. We adopted a formal plan to align our messages--ultimately all tied to Army goals and those on our Balanced Scorecard. Our creation of a Strategic Communications Directorate to ensure alignment of our key messages, to better understand and use social media, to expedite cross-talk and learning among such diverse groups as the Office of Congressional Liaison, Public Affairs, Protocol, Medical History, the Borden Institute, the AMEDD Regiment and others speaks directly to these efforts.

While we are still in the "advanced crawl/early walk" phase of knowledge management, we know from examples such as the Joint Theater Trauma System and the Performance Based Budget Model that we can move best practices and newly found evidence-based approaches into common or widespread use if we aggressively coordinate and manage our efforts and promote transparency of data and information and the knowledge which derives from it. We have begun a formal process under the Strategy & Innovation Directorate to move the best ideas in both clinical and transactional processes into standard practices across the MEDCOM in a timely way. This will be achieved through a process to identify, validate, and transfer best practices. We endeavor to be more agile and adaptive in response to a rapidly changing terrain of US and Federal healthcare and operational requirements for a Nation at war.

In closing, I am very optimistic about the next two years. We have weathered some serious challenges to trust in Army Medicine. Logic would not predict that we would be doing as well as we are in attracting, retaining and career developing such a talented team of uniformed and civilian medical professionals. However, we continue to do so year after year--a tribute to all our Officer Corps, the leadership of our Non-Commissioned Officers, and our military and civilian workforce. The results of our latest Medical Corps Graduate Medical Education Selection Board and the Human Capital Distribution Plan show continued strength and even improvements over past years. The continued leadership and dedicated service of officers, non-commissioned officers, and civilian employees are essential for Army Medicine to remain strong, for the Army to remain healthy and strong, and for the Nation to endure. I feel very privileged to serve with the men and women of Army Medicine during this historic period as Army Medics, as Soldiers, as Americans and as global citizens.

Thank you for holding this hearing and your unwavering support of the Military Health System and Army Medicine. I look forward to working with you and your staff and addressing any of your concerns or questions.