

BRIEFING/POINT PAPER

The Uniformed Services University of the Health Sciences (USU)

Thank you for your letter and the information on the Uniformed Services University of the Health Sciences (USUHS) as well as the 2002 Edition of the USU Journal. It is gratifying to see the University provide continuity and leadership for ensuring medical readiness. Alumni are highly trained and will no doubt continue their tradition of providing first-rate Military Health System support. The Cost Avoidance Fact Sheet is further evidence of your commitment and dedication... Please convey to Admiral Zimble my deep appreciation for the hard work he and the people of USUHS are doing for those of us in uniform (General Richard B. Myers, Chairman of the Joint Chiefs of Staff, Letter to the University, November 20, 2003).

MISSION. The Uniformed Services Health Professions Revitalization Act of 1972, Public Law 92-426, established the Uniformed Services University of the Health Sciences (USU) to provide *Continuity* and *Leadership* and ensure *medical readiness* for the Military Health System (MHS). Comprehensive annual reports and official recognition from USU's chain-of-command document that USU continues to meet or exceed its mission and to generate cost-avoidance for the MHS.

The University - Three Core Values - Relevance - Readiness - Optimization.

RELEVANCE.

The Department takes great pride in the fact that the USUHS graduates have become the backbone for our Military Health System. The training they receive in combat and peacetime medicine is essential to providing superior force health protection and improving the quality of life for our service members, retirees, and families. All of us in the Office of the Secretary of Defense place great emphasis on the retention of quality physicians in the military. The USUHS ensures those goals are met (The Honorable Donald Rumsfeld, Secretary of Defense, Letter to the Chairman of the USUHS Board of Regents, March 22, 2001).

USU products, programs and expertise ensure the University's response to the special needs of the MHS through the following:

- The recruitment and retention of uniquely qualified uniformed physicians, advanced practice nurses and scientists;
- The development and sharing of unique health care expertise and continuously evolving curricula interwoven with military applications essential for the response to weapons of mass destruction (WMD), disaster or humanitarian assistance, and contingencies other than war. USU' military unique training includes approximately between 784 and 889 hours of initial military education and medical readiness training compared to that provided to the Health Professions Scholarship (HPSP) graduates whose training ranges from 50 to 132 hours. The sharing of this unique training and expertise has been enhanced through the USU National Capital Area Medical Simulation Center, the USU Patient Simulation Laboratory, and the University's internationally recognized research centers and programs;
- The recognition of USU by the Association of American Medical Colleges (AAMC) as the "*one place where physicians of tomorrow do get thorough preparation to deal with many contingencies, including the medical aspects of chemical and biological terrorism. USUHS students learn how nuclear, biological, and chemical*

agents act on the human body and what to do in the event of a suspected exposure" (AAMC Reporter, December Issues of 1998 and 2001);

- Basic science advances in the area of emerging infectious diseases can affect the current and future health of individuals throughout the MHS. Through the Emerging Infectious Diseases Graduate Program, the USU SOM has increased its capacity and commitment to training students and fellows in areas of vital interest and importance to military medicine such as biothreat and bioterrorism agents; and,

- During 2002, USU research was recognized by Science as one of the top ten scientific breakthroughs of 2002; two USU researchers identified a photoreceptive net, a new light-detecting apparatus in the retina. *From the perspective of the Armed Forces, not having to acclimate or adjust the internal human clock after it has been knocked out of synch by travel across time zones, could ultimately save lives* by allowing uniformed personnel to remain awake longer with fewer detriments to performance and reasoning capabilities under battlefield conditions.

READINESS.

The Uniformed Services University of the Health Sciences distinguished itself by exceptionally meritorious service from July 1, 1990 to July 1, 2000. The University has graduated military physicians with better overall understanding of the military, a greater commitment to the military, and a better preparation for operational assignments and leadership positions" (Citation, Joint Meritorious Unit Award, presented to USUHS by the Honorable William S. Cohen, Secretary of Defense, December 11, 2000).

*USU is the only University in the United States dedicated to ensure readiness for the MHS. Its military unique curricula and programs, successfully grounded in a multi-Service environment, draw upon lessons learned during past and present-day combat and casualty care to produce **career-oriented officers** - physicians, advanced nurses, and scientists with military unique expertise. USU graduates receive military medical and readiness training **BEFORE** they become critical to the MHS as health care providers. USU ensures force health protection and readiness through the following:*

- USU alumni provide extraordinary dedication, leadership and retention rates which ensure the provision of continuity for the MHS mission and the essential safeguarding of lessons learned during combat and casualty care;

- Since the first graduating class in 1980, through the present, over 80 percent of the 3,421 USU School of Medicine (SOM) graduates remain on active duty in the MHS; the USU SOM graduate serves, on average, over 18.5 years on active duty in the MHS;

- 2,663 USU SOM graduates represent 22 percent of the approximately 11,907 physicians on active duty in the MHS;

- The median length of non-obligated service for physician specialists in the MHS, not including USU graduates, is 2.9 years; the median length of non-obligated service for USU physicians following Graduate Medical Education is 9 years;

- Today, approximately one out of every two USU SOM alumni who have completed their residency training is holding a leadership or operational position in the MHS; and,

- First documented in 1994, the USU SOM has consistently provided the majority of physicians who serve in the Special Forces; ***"I do have 14 physicians who work in Special Forces. Nine out of the 14 are USUHS graduates, that says they are ready for that kind of activity"*** (Surgeon General of the Army's statement to the Senate Committee on Armed Services, March 2, 1994).

OPTIMIZATION.

I want to extend my congratulations to you, the leadership and the faculty at the Uniformed Services University for your exemplary performance in receiving a ten-year accreditation with commendation from the Middle States Commission on Higher Education. This is a notable achievement, and it reflects a successful, long-term commitment to the highest levels of professional medical education for this Nation's Military Health System. The quality of your graduates continues to serve as a testament to the quality of the teaching that was endorsed by the Middle States Commission. You and your staff continue to make significant contributions to our Nation's military readiness and our national medical preparedness (the Honorable William Winkenwerder, Jr., M.D., Assistant Secretary of Defense, Health Affairs, Letter to the USU President, July 22, 2003).

Since 1977, continuous accreditation granted by the Commission on Higher Education of the Middle States Association of Colleges and Schools has enabled the University to support and generate cost avoidance for the MHS through its multiple educational programs and activities:

USU - The Academic Center for the Military Health System.

- The University has granted 3,421 Medical Degrees; 200 Masters of Science in Nursing Degrees; and 771 Master and Doctoral Degrees through its Graduate Education Programs;

- USU has 331 full time faculty (207 civilians/124 uniformed officers) and 4,031 off-campus faculty (1,167 civilians/2,864 uniformed officers);

- ***"USUHS not only educates its own graduates, but also provides a significant national service through its continuing medical education courses for military physicians in combat casualty care, tropical medicine, combat stress, disaster medicine, and medical responses to terrorism. These courses are simply not available through civilian medical schools"*** (American Medical Association Statement to the Senate Appropriations Committee, April 14, 1994);

- The USU Office of Graduate Medical Education (GME) was established in 1986 to provide consultation on GME programs (internship, residency, and fellowship training for physicians) for Program Directors and the Office of the Assistant Secretary of Defense for Health Affairs (ASD/HA). In 1993, the ASD/HA directed the integration of duplicate GME programs in the National Capital Region; thus, the National Capital Consortium (NCC) was established by the Commanding Officers of the Walter Reed Army Medical Center, the National Naval Medical Center, the Malcolm Grow Medical Center, and the Dean of the USU SOM on January 25, 1995. In September of 1997, the USU Office of GME was selected as the Administrative Office for the NCC; when this delegation of authority took place, there were 86 programs located at five sites. Today, following on-going transition, a total of 65 GME programs remain; and, all are under the sponsorship of the NCC. On June 28, 1999, the ASD/HA assigned USU with coordinating the efforts of the Services in developing the necessary curricula, for military unique training in DoD-sponsored GME programs and for establishing a centralized repository of information on educational materials and courses to support the implementation of those curricula. Today, military unique curriculum for each major specialty has been developed and is posted on the USU GME Web Site <<http://cim.usuhs.mil/dodgme/>>; and, subject matter expert panels conduct biennial revisions;

- Following the identification of a requirement for advanced nurse practitioners and anesthetists by the Federal Nursing Chiefs, in 1993, Congress directed the initiation of a demonstration program for the preparation of nurse practitioners for the Uniformed Services within the unique educational environment of USU; this eventually led to the establishment of the USU Graduate School of Nursing (GSN). The GSN received official approval from the Office of the Secretary of Defense on February 26, 1996. Since the first GSN graduation in 1995, a total of 200 graduates have received the Master of Science in Nursing Degree. Recently, the GSN has received full accreditation from: the National League for Nursing (NLN) Accrediting Commission through the Fall of 2009; the American Association of Colleges of

Nursing (AACN) Commission on Collegiate Nursing Education (CCNE) through June of 2012; and, the Council on Accreditation (COA) of Nurse Anesthesia Education Programs through the Fall of 2013. The Federal Nursing Chiefs informed site visitors from the GSN's accrediting entities that they were most pleased with the excellent quality of the GSN graduates and that the USU GSN has proven to be a unique educational asset for the MHS. The GSN, in response to the Federal Nursing Chiefs, implemented a Clinical Nurse Specialist Program with a focus on perioperative nursing in the Summer of 2003; and, a Doctor of Philosophy in Nursing Program was initiated in the Fall of 2003; and,

- USU research activities provide multiple opportunities for collaboration with USU's 2,864 off-campus, uniformed faculty. For example, the Emerging Infectious Diseases Graduate Program provides an opportunity for military pediatric and adult Infectious Diseases Fellows to complete the research components of their Fellowships; the USU SOM Department of Preventive Medicine and Biometrics has provided the opportunity for hundreds of uniformed officers to receive advanced degrees in public health and tropical medicine and hygiene; and, the USU Center for Education and Research in Patient Safety was recently established in direct response to an identified requirement by Health Affairs. As reported during 2003, the USU Office of Research (REA), provided oversight for nine, multi-site, Congressionally-funded research programs totalling \$59 million: the TriService Nursing Research Program; the Center for Prostate Disease Research; the Defense Brain and Spinal Cord Injury Program; the Coronary Artery Disease Reversal Program; the Clinical Breast Care Program; the Post-Polio Research Program; Programs for Comprehensive Neuroscience and Hepatitis C; and, the United States Military Cancer Institute. Together, these programs support approximately 150 individual research projects conducted at USU and elsewhere. Extramural USU research programs were funded at approximately \$53.3 million and were supported by various Federal agencies such as the National Institutes of Health, the National Science Foundation, the Department of Energy, the United States Army Medical Research and Materiel Command, and the Office of Naval Research. In addition, Intramural Research Programs were funded at \$2.7 million; thus, the total of the USU Intramural, Extramural, and Congressional Research Programs was approximately \$119.9 million, with a total of 414 active projects and 533 publications. The USU Program for the Protection of Human Participants in Research and the USUHS Institutional Review Board (IRB) jointly ensure the protection of human volunteers during research conducted at USU and its affiliates. Also reported during 2003, the USU IRB, supported by REA, reviewed and approved the following: 211 initial proposals for human subject research; 120 amendments to protocols already underway; and, 119 annual or semi-annual reviews of previously approved projects. The USU Program for the Protection of Human Participants in Research and the USU IRB have been found to meet, or exceed, all governing standards and regulations by external auditors.

Generation of Cost Avoidance for the MHS.

Policy-makers need to consider the costs and benefits for each accession source. For example... their better retention makes USUHS the most cost-effective accession source for filling 0-6 grade requirements in the MHS (Phase II, The Impact of Constraints and Policies on the Optimal-Mix-of-Accession Model, Life-Cycle Costs of Selected Uniformed Health Professions, Center for Navy Analysis, April, 2003).

Four USU programs generated \$29.3 Million of cost avoidance for the MHS in Fiscal Year 2003:

- During 2003, 154 USU faculty members, 100 uniformed officers and 54 civilians, provided 147,607 hours of clinical and consultative services in Military Treatment Facilities at an estimated manpower cost of \$12,190,375;

- The USU Office of Continuing Education for Health Professionals (CHE), through unique accreditation by five entities, reported in May of 2003 that it sponsored continuing medical education for 719 activities attended by 5,208 physicians; provided continuing nursing education for 62 activities for 1,378 nurses; and, approved 25 programs of Category II (non-ACHE) continuing education credit for 480 members of the American College of Healthcare Executives. The estimated cost avoidance for DoD totalled \$2,653,448;

- The USU Military Training Network (MTN) develops and implements policy guidance and ensures compliance with curriculum and administrative standards for resuscitative and trauma medicine training programs for the

MHS and DoD affiliates. The TriService MTN staff provides service specific expertise, central record-keeping, world-wide coordination of programs, and ensures that national resuscitative and trauma medicine organizations are aware of the unique requirements of military medicine. Over the past six years, more than one million service members have attended MTN training programs. In May of 2003, the MTN reported that over 223,735 defense personnel were trained through the USU MTN; the estimated total cost avoidance generated for DoD was \$13,007,208; and,

- Since the establishment of the USU SOM Graduate Education Programs in 1977, a total of 771 advanced degrees have been granted by the University: 234 Doctors of Philosophy; 12 Doctors of Public Health; 69 Masters of Science; 422 Masters of Public Health; 4 Masters of Science in Public Health; 26 Masters of Tropical Medicine and Hygiene; and, 4 Masters of Military Medical History. The USU SOM Graduate Education Programs have been established from within existing resources at the University, to specifically respond to the special needs of the Uniformed Services. During 2003, 41 uniformed officers received advanced degrees (37 Masters Degrees and 4 Doctoral Degrees); at an average cost of \$30,000 per Master Degree and \$80,000 per Doctoral Degree, the USU SOM Graduate Education Programs generated approximately \$1,430,000 of cost avoidance for the DoD. Currently, there are 74 uniformed officers enrolled in the USU Graduate Education Programs.

Four USU Activities Provide Critical WMD-Related Expertise.

Four USU activities, described below, have established credibility in providing military unique expertise covering four areas of WMD-related concerns: the preparation of emergency responder communities; ensuring communication and assessment of military medical humanitarian assistance training for the MHS; addressing traumatic stress of both civilian and military communities during WMD-related incidents; and, the development of medical radiological countermeasures and the provision of unique training for the response to radiological emergencies.

USU CASUALTY CARE RESEARCH CENTER

- Preparing Uniformed and Civilian Emergency Responders. Established in 1989, the USU Casualty Care Research Center (CCRC) has provided military-unique, national standard, assessment-driven curricula and certification for over 7,000 emergency responders from more than 750 agencies across the United States on the crisis management response to: weapons of mass destruction; counter terrorism; protective operations; hostage rescue; explosive ordnance disposal; maritime operations; civil disorder; and, major national security events. In addition, the CCRC has coordinated joint civil-military interoperability response plans and initiated individual programs for civilian hospitals to ensure continuity of WMD training for future staff; a distance learning program is currently under consideration. *The location of the CCRC within the multi-Service environment of USU is critical to the development and sustainment of the CCRC's ability to maintain its core competency - the capability to provide military-unique, medical expertise and experience required by both uniformed and civilian emergency/health care responders to WMD-related and other national security contingencies.* The CCRC Deployments for Training (DFT) Program provides an opportunity for military graduate physicians to develop operational competence prior to actual combat conditions through collaboration in counterterrorism and national security operations with the law enforcement community. This program provides students with a real world operational experience in a permissive environment that cannot be duplicated outside of combat. Special Forces experience in Iraq has demonstrated the value of this DFT Program in bridging the gap between classroom and operational readiness. The CCRC continues to serve DoD well as a bridge between the DoD, other Federal agencies, and the civilian emergency communities.

USU CENTER FOR DISASTER AND HUMANITARIAN ASSISTANCE MEDICINE

- Ensuring Communication, Effective Measurement, Rapid Assessment and the Provision of Military Medical Humanitarian Assistance Training Throughout the MHS and Civilian Medical Communities. During 1998, the USU Center for Disaster and Humanitarian Assistance Medicine (CDHAM) was established as a military-unique focal point/clearing house to advance the understanding and global delivery of disaster medical care and humanitarian assistance for the MHS. *The CDHAM ensures specialized expertise, consultation, training, education, and research for medical support activities that impact homeland defense, terrorism and disaster response, and humanitarian assistance.*

Uniquely positioned as an academic center within USU, the CDHAM has served as a focal point in the MHS to: 1) develop relationships between various governmental, non-governmental, and private volunteer organizations; 2) assist in the critical management of relief efforts in the medical response to WMD, terrorism, natural disasters, and humanitarian assistance contingencies through new developments in the areas of disaster and humanitarian assistance medicine (such as ultrasound imaging training for disaster response or the use of PDA/handheld computer software platforms for disaster needs and assessment); and, 3) augment the training of military medical officers in the fields of telemedicine and medical informatics in relation to austere environments, education, and research capabilities. CDHAM personnel conduct studies for the MHS to measure the effectiveness of Military Medical Humanitarian Assistance (MMHA) and to provide rapid assessment of Disaster and Humanitarian Assistance requirements. Using the model of a course developed by the USU SOM Department of Pediatrics, CDHAM has developed and distributed a family of specialty-specific, intensive MMHA Courses across the spectrum of medical, nursing, and veterinary medicine specialties; and, CDHAM continues to expand and enhance its provision of on-line support for participants in humanitarian or disaster relief activities. Today, CDHAM is expanding collaborative relationships with the Unified Combatant Commanders and other United States government agencies such as the Office of Foreign Disaster Assistance and the Agency for International Development, as well as international organizations such as the Pan American Health Organization and the World Health Organization.

USU CENTER FOR THE STUDY OF TRAUMATIC STRESS

- Addressing Traumatic Stress During a National Crisis. The USU Center for the Study of Traumatic Stress (CSTS) was established in 1987 as a center of excellence for responding to DoD's long-term concerns over the substantial health risks resulting from the traumatic impact of: the possibility or actual use of WMD during acts of terrorism or hostage events; combat, peacemaking, peacekeeping or operations other than war; natural disasters such as hurricanes, tornadoes, or floods; and, more common stress-producing events such as physical assaults and motor vehicle, shipboard, or airplane accidents. The CSTS scientists are involved in a wide range of projects including responses to natural, man-made, and environmental disasters; these studies examine community responses to loss of life and property, community displacement, and organizational leadership. In addition, the CSTS research projects involve the examination of the physiologic change after trauma and the neurobiology of stress. *The location of the CSTS within USU is critical to the development and sustainment of CSTS' ability to provide its core competency - the capability to ensure the continued provision of critically required military-unique, medical expertise and consultative support in response to the impact of traumatic stress during and following activities related to crisis management, disaster response, and homeland defense.* The Center has earned both national and international recognition; it coordinates seminars, collaborates on significant publications, and is recognized in the area of traumatic stress by the National Media. Since the events of September 11, 2001, the Center has ensured the continued provision of critically required military-unique, medical expertise and consultative support relevant to WMD-related, crisis management, disaster response, and homeland defense. Requests for assistance have been received from the Secretaries of Defense (membership on a 12-member Task Force, RED-NUFF) and Health and Human Services (the DoD/NIH consensus meeting on early interventions following incidents of mass violence to prepare state and local leaders for the stress resulting from bioterrorism). Recently, CSTS participated in the NATO-Russian Advanced Scientific Workshop on Planning for Bioterrorism; and, during 2003, CSTS also consulted with the World Health Organization on issues related to bioterrorism and mental health. Significantly, CSTS conducted and published studies on the traumatic stress experienced by both the MHS and the civilian emergency responder communities resulting from the October 2002 Sniper Terrorism in the Washington, D.C. area.

ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE

- Enhancing Medical Nuclear/Radiological Readiness through Research & Development Training, Emergency Response and Consultation. Since 1961, the Armed Forces Radiobiology Research Institute (AFRRI) has studied the biological effects of ionizing radiation for the development of medical countermeasures and rapid assessment of exposure doses to provide the most effective medical management for radiation injuries. AFRRI has trained thousands of MHS personnel on the medical effects of ionizing radiation. The AFRRI Medical Radiobiology Advisory Team is uniquely qualified to respond to radiological emergencies due to warfare, accident, or terrorism. AFRRI's

physicians and health physicists serve as consultants to the Joint Chiefs of Staff (J-4 Medical), Office of the Secretary of Defense (Nuclear Matters), Combatant Commanders and their Surgeons, the Surgeons General, and others. AFRRI provides consultation to Health and Human Services on medical planning and consequence management of nuclear/radiological catastrophes and works closely with the National Pharmacy Stockpile to update the formulary for radioprotective/radiotherapeutic drugs. AFRRI was instrumental in developing the radiation dose standard for the neutralization of anthrax-contaminated mail and restarting the delivery of mail service for the Nation. *There is no other comprehensive, militarily relevant radiobiological research program like AFRRI's.* While several initiatives exist in universities and private industry to develop pharmacologic strategies to prevent collateral tissue damage in radiation therapy patients, no other program exists to address the spectrum of radiological injuries anticipated under combat situations involving the use of nuclear or radiological weapons. AFRRI leverages findings from private sector initiatives to develop countermeasures not only to prevent injuries, but also to treat and assess radiological injuries under military operational scenarios. Only AFRRI offers a program dedicated to these special military requirements; no other program within the DoD addresses medical radiological defense research requirements. AFRRI's provision of direct support to the Office of the Secretary of Defense and the Joint Chiefs of Staff validates its mission relevance and its value to national defense. Upon request during emergency situations, AFRRI deploys teams of technical and scientific experts as consultants within a three-hour response time.

The examples cited above are **not** an inclusive reflection of all of the University's many products and services; this paper only provides selected examples.

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