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PUBLISHER'S MESSAGE

By Martin (Marty) Masiuk, Publisher




Many DPJ readers already have commented favorably – in emails or by phone, primarily, but frequently in person as well – both on the magazine's "new look" in our second year of publication, and on the broader spectrum of topics we are covering. Many also have noticed, and noted their approval, that our roster of writers has expanded in scope as well. On behalf of our entire editorial staff all I can say is a very sincere "Thank you!"

To which I also want to quickly add that "This is only the beginning." Future issues will be both bigger and, we all hope, even better. The umbrella term Domestic Preparedness covers an ever-expanding spectrum of topics, including but not limited to disaster planning, consequence management, training and teamwork, logistics and funding, the massive and varied workloads of the nation's first-responder communities, and the separate but necessarily interlocking roles and responsibilities of decision makers and contingency planners at all levels of government – state and local as well as federal.

From the beginning, our principal editorial focus has been on the front lines – namely, the firemen, policemen, EMS (emergency medical services) personnel, and other first responders – American Red Cross workers, for example – who put their own lives on the line in times of major disasters, natural or manmade, that strike the U.S. homeland. Because many of those disasters affect not just neighborhoods, cities, and states but entire regions of the country we also are paying greater attention to multi-state, regional, and – most important of all – national policies and programs as well. As DPJ's publisher I promise you that our coverage of these areas will continue, and be even greater in depth in the future.

One of our own most important goals has been to promote and editorially support much greater teamwork among decision makers, long-range planners, elected officials – again, at all levels of government – and the on-scene commanders and first-responder workers who have the ultimate responsibility for saving lives, maintaining peace and stability, and creating order out of chaos during and immediately after any catastrophic incident or event of national significance.

During the Revolutionary War our forefathers appreciated the grim humor in the statement that "If we do not hang together, we assuredly will all hang separately." Today we are joined in another great struggle of long but uncertain duration. Great sacrifices already have been made, particularly by the brave young men and women in uniform who are engaged in actual combat operations overseas. Equal or perhaps even greater sacrifices may have to be made on the home front as well. Only time will tell if we as individuals – and we as a nation – will have the courage and the staying power needed to live up to the challenge facing us.

We are still only at the threshold of what only a few years back we hailed as a "new millennium." Whether we go back or forward is still uncertain, though. The decision is up to us. All of us. Working together. 

Cover: A first responder helps a Marine "incapacitated" in a simulated chemical weapons attack during a regional training exercise in North Carolina last year that was designed to test and evaluate the preparedness capabilities of emergency-services personnel and their field commanders. (Department of Defense photo by Lance Cpl. Shane Suzuki.)

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Analysis and Commentary

Nuclear Resiliency: Command Attention Required

By John Morton, Commentary



A little over a month before Hurricane Katrina hit the U.S. Gulf Coast, Department of Homeland Security (DHS) Secretary Michael Chertoff told an audience in Santa Clara, Calif., that “of all the catastrophic threats ... we face, a nuclear attack on our soil would be uniquely threatening to our society.”

Today, as the controversy over Hurricane Katrina recovery operations continues, a new buzz word has come into vogue: “resilience.” This month, DomPrep was a media partner for a Washington Critical Infrastructure Resilience Conference that focused on various aspects of “breaking the protection paradigm.”

Read one agenda item: “Following the terrorist acts of September 11, 2001, much of the U.S. reaction was focused on protection of critical infrastructure. Recent natural disasters have clearly illustrated that resilience, rather than protection, is a more appropriate focus of national resources.” That sweeping statement was followed by an important question? “Why should the focus of policy and planning be shifted from protection to resilience?”

Prudence, Planning, and an Institutional Worldview

Why indeed? In the domestic-preparedness field, resilience is a buzz word that originated overseas, attaining notable currency in the United Kingdom. Israel practices resilience in spades by, among other things, supplying citizens with their own gas masks and atropine (a nerve agent antidote). When DomPrep first hung out its shingle in 1998, a few people used the acronym “CIP”

in discussing critical-infrastructure protection. At last week’s Resilience Conference, the talk was about “CIR” – shorthand for critical-infrastructure resilience. What is at stake, though, is much more than semantic nuance.

Americans often – and perhaps subconsciously – equate protection with prevention. Resilience, however, acknowledges that achieving 100 percent prevention is an impossibility; hence, prudent policy and planning fully funds programs that involve consequence management as well.

In his Santa Clara address, Chertoff’s pre-Katrina statement prefaced the announcement that a new DHS Domestic Nuclear Detection Office (DNDO) had been created, the principal goal of which would be “to develop and deploy the next generation of systems that will allow us to intercept a nuclear threat.” The creation of “this kind of nuclear defense,” Chertoff commented, amounts to “a reverse Manhattan Project for the 21st century.”

Chertoff’s reference to the Manhattan Project of the early 1940s reveals an understandably persistent mindset. That celebrated WWII initiative to build the world’s first atomic bombs was made possible by a command-attention worldview that not only applied emerging scientific breakthroughs to create revolutionary new technologies and weapon systems but also, and of at least equal importance, overcame numerous entrenched bureaucracies to “make it so,” as the Navy saying goes.

Once this new mindset and worldview had been achieved, and institutionalized,

the U.S. national-security landscape transformed into a military-industrial-scientific-academic establishment that has lasted – with its varied and polyglot work forces, political supporters, and DOD (Department of Defense) sponsors – to this day.

Personal Preparedness And National Programs

In itself a very good thing, the DNDO is, nonetheless, a creature arising from this sixty-year-old landscape and is focused on what might be called “the protection paradigm.” Now a new “resilience paradigm” is the goal – but exactly what it consists of is still being defined. One of its principal components, though, was spelled out almost two years ago at a Washington homeland-security symposium when Chertoff’s predecessor, Thomas Ridge, and former American Red Cross (ARC) President and CEO Marsha J. Evans agreed that “personal preparedness” was and should be “the strongest element of national security.”

In a DomPrep interview last year, Evans reiterated the theme of her tenure at the helm of the ARC: “No community is truly prepared for a disaster until every individual, family, and household takes personal responsibility for preparedness.”

All of which is well and good, but it remains clear nonetheless that the U.S. government still must play a major role in assisting individuals, families, and households to prepare themselves for the consequences of nuclear terrorism, just as Israel has done to prepare its citizens for the consequences of a chemical attack.

Some years ago, the Radiation Casualty Management Team at the Pentagon’s underfunded Armed Forces Radiobiology Research Institute (AFRRI) conducted research into a steroid called 5-

androstenediol (5-AED), a radio-protectant that enhances the body’s immune function and increases the chances for survival after exposure to gamma radiation. From laboratory testing on mice, the team reported, “The efficacy and low toxicity of AED make it an attractive candidate for development as a countermeasure for the injurious effects of ionizing radiation.”

***No community is
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Needed: An Injection Of Common Sense

The AFRRI’s lead-candidate radiation countermeasure is Hollis-Eden Pharmaceuticals’ 5-AED, called Neumune, which requires no refrigeration and has no known side effects. Hollis-Eden packages Neumune in disposable auto-injectors – cartridges already fitted with needles that make it ideal for one-time use, like those used by the military for atropine.

In other words, troops, first responders – and anyone else, for that matter – could self-administer the injections without medical supervision, as does any diabetic child who injects his or her own insulin. For years, the San Diego biotech firm has been lobbying Washington hard to get Neumune procured in quantities sufficient to make manufacture commercially viable. Hollis-Eden currently estimates that the mass-production cost would be about \$75 to \$100 per dosage, per person.

There is an important qualification to consider, however: Anyone exposed to life-threatening doses of gamma radiation must receive his or her first injection of Neumune within four hours of exposure – i.e., *before* cell damage would outpace the body’s capacity for regrowth. Reliance on Neumune or some equivalent medication therefore would require the stockpiling of fairly large quantities of the medication beforehand and/or advance distribution.

Stockpiling certainly has its precedent here. The U.S. government’s Strategic National Stockpile (SNS) already has in its inventory some chelating agents such as “Prussian blue” – i.e., substances that can chemically bind with certain types of inhaled radioactive particles and then flush them from the body.

An “Extraordinary Offer” From the NRC

In most – if not all – situations involving nuclear radiation, it would be logistically impossible to get stockpiled radiation countermeasures to victims within the first four hours of exposure. However, there also is a precedent for the advance-distribution option. In December 2001, about three months after the 9/11 attacks, the Nuclear Regulatory Commission contacted the 34 states that have their own nuclear power plants – or are adjacent to other states that have them – and made an extraordinary offer: two free potassium iodide (KI) pills for every person in the state living within ten miles of a plant.

In June 2003, congressional bioterrorism legislation, the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, extended the radius of distribution to those living in communities within 20 miles of nuclear plants.

Potassium iodide provides protection against radioactive iodine isotopes that can cause thyroid cancer. Although KI does not protect against other types

of radioactive isotopes, it garnered government support sufficient to prompt a request for proposals (RFP) from Project BioShield for a liquid version suitable for infants and children. Last year, BioShield awarded a \$5.7 million contract to Fleming and Company for 1.7 million pediatric doses of the firm's KI liquid, ThyroShield™.

The BioShield program is notable for a number of reasons. On the one hand, it is a domestic-preparedness program run not directly by DHS, but through the Department of Health and Human Services, which controls the largest pot of money in the overall homeland-security research and development budget. In 2003, Congress appropriated a discretionary reserve of \$5.6 billion to fund BioShield through fiscal year 2013.

Regrettably, though, BioShield has been ill-starred from the beginning. Notwithstanding the program's comparatively hefty budget, at least in homeland-security terms, various members of Congress have said that the administration has not gone far enough, in their opinion, to incentivize the pharmaceutical industry to participate in Project BioShield. In addition, the pharmaceutical industry itself has remained skeptical of the reliability of a government-created biodefense market, and some industry spokesmen say that the actual funding provided is far from sufficient to meet their business needs.

The Starting Point for a New Procurement Policy?

Hollis-Eden had hoped, for example, that BioShield would create a market for its Neumune. In a *60 Minutes* program aired last month, though, Hollis-Eden said that the BioShield RFP for the radiation countermeasure postulated an initial procurement of only 100,000 units. (In response, a BioShield spokesperson said, "We don't see 100,000 as the end, we see ... [it] as the beginning.")

"They [BioShield officials] are supposed to create a market, not a starting point," said Bob Marsella, Hollis-Eden's vice president, on the CBS news program. "If they were going to buy tanks for the military would they just buy one tank, or would they buy 100 tanks? ... I think that the contractor would have a hard time spending all the money and research and not have a guarantee that they're going to buy more than one tank."

Just as Chertoff referred to the Manhattan Project as a workable model for radiological sensor programs, Marsella drew on the customary argument that the Cold War military-industrial complex still makes for its weapons systems – namely, that only full production runs can sustain an enterprise and yield feasible unit costs. Marsella made his argument for a different set of interests and their work forces, and a different federal department, but his call for full funding for an important BioShield initiative could, if heeded, translate into significant gains for the nascent U.S. biodefense industry, for an all-hazards national-preparedness policy in general, and for what many preparedness experts consider the deplorable state of public health in this country.

In the same *60 Minutes* program, it should be noted, Rep. Tom Davis, a Virginia Republican who chairs the committee that oversees Project BioShield, also called for stronger federal leadership in the same area.

The Same Rice Bowls, But a Different Prism

Whatever decision is made on the KI program, it seems clear that fiscal resources have to be re-allocated on a grand scale in any event if the United States is to begin to approach the level of preparedness envisioned by such recognized authorities as Secretary Ridge and Rear Admiral Evans. That

reallocation is particularly essential for nuclear resiliency.

As in the early 1940s, only a bipartisan-leadership approach will provide the political will needed to break the rice bowls. The vestiges of the military-industrial complex do not possess the only prism through which to view 21st-century national-defense and homeland-security problems. Nor should the leaders of that complex be the arbiters of 21st-century national-defense and homeland-security solutions that primarily reflect the views of only one set of vested interests. The new industrial sectors of the 21st century and their work forces must speak to the same set of problems and offer their own solutions. And not only must they be heard, they also must help to drive both policy and planning – and funding as well.

In short, whether or not Hollis-Eden, Fleming and Company, and/or any other biotech firm offers the best radiation countermeasure for nuclear resiliency, stronger political leadership still would be needed – both to resolve such complex issues as liability and logistics, and then to implement the plans agreed upon by all of the stakeholders involved. To do all that, though, will require a mindset at the very top that is more than PR posturing – a mindset, in other words, that can provide the command attention required to "make it so." ▼

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Funding Strategies for EMS Decision Makers

By Mary Ungar, *Funding Strategies*



Disaster preparedness and response represents a formidable challenge to the nation's emergency medical response community. Effective disaster planning requires partnership between and among multiple levels of government, traditional first responders, hospital and public health officials, and a variety of public and private organizations. Each of these entities requires coordination in several key areas – including, but not limited to, policies, procedures, technologies, and training – in order to effectively perform.

Specific funding streams may be available to ensure that policies and procedures for personnel, communications, logistics, supplies, facilities, and equipment are developed. Further funding usually is available to ensure that first responders and hospital staffs are properly trained and that the procedures agreed upon by all parties involved are exercised. However, obtaining the funding needed for high-acuity, low-frequency events

private-sector EMS (emergency medical services) organizations.

Congressionally Mandated Tithing

In an effort to integrate preparedness assistance, the Department of Homeland Security (DHS) has continued its efforts to create a common planning framework in which agencies at all levels of government and across multiple disciplines can operate. The department's National Preparedness Goal establishes objectives for multi-jurisdictional cooperation of public and private-sector organizations to work together to provide a layered range of products and services.

Congress has helped both by mandating that states and urban areas provide a minimum of ten percent of their total preparedness grant funding to EMS providers and by requiring states to report to Congress on the distribution of funding to the EMS community. In fiscal year 2005, DHS and HHS (the Department of Health and Human Services) made \$3.9 billion in grant and

Although first-responder communities – EMS units, fire departments, and law-enforcement agencies – are supposed to be provided for in these grant programs, many first responders still have not received funding (in at least some cases, probably, because they are not aware of the process established for executing programs that qualify for funding). New program guidance for grant application completion is available from DHS, however – but close attention should be paid to ensure that the DHS target capabilities areas are addressed. However, practical experience demonstrates that it is critical for all stakeholders to work closely with their state and local government grant organizations. This is because the applications must not only meet the grant requirements established, but also demonstrate that a multi-jurisdictional team of participants is involved.

An Entry Point and Safety Net

To ensure that emergency medicine preparedness and response programs are funded, consideration also should be made

FY 2005 DHS/HHS Preparedness Programs

| Program Title | Sponsoring Agency | FY2005 Funding |
|--|---|----------------|
| Homeland Security Grant Program | Office of Domestic Preparedness, DHS | \$2.5 billion |
| Public Health Emergency Preparedness Cooperative Agreement | Centers for Disease Control and Prevention, HHS | \$862 million |
| National Bioterrorism Hospital Preparedness Programs | Health Resources and Services Administration, HHS | \$491 million |
| Bioterrorism Training and Curriculum Development Program | Health Resources and Services Administration, HHS | \$25 million |

remains a primary challenge in emergency medicine. Such events are, by nature, uncommon, and are always vulnerable to budget reallocation for daily or current emergencies. On the other hand, federal grants provide significant funding to state and local government agencies and

cooperative-agreement funds available to state and local jurisdictions to assist them in building and sustaining their preparedness and response capabilities. Therefore, at least ten percent of that total should be earmarked for emergency medical services and will have to be allocated out of those funds.

to reaching out to the stakeholders in the emergency management supply chain and, when that has been done, to approach funding agencies with specific projects that are under consideration. Emergency management first responders, hospital services, pharmaceutical providers, public health officials, and health

advocates all interact with the emergency medicine community on a regular basis.

Another factor to consider is that emergency medicine is defined by its availability for any type of problem. In many situations, EMS facilities and organizations represent the entry point for many crucial health services professionals – e.g., trauma surgeons, infectious disease specialists, and mental health workers. In addition, the emergency department serves by default as the safety net of the nation’s overall medical system, making it “the place to go” when the public is not sure.

Moreover, besides sometimes responding

Despite the collective reach of these various mandates, there still are relatively few standardized policies and training curricula that might serve as models for the EMS community in general. Perhaps the most fundamental guidelines for hospital preparedness are those spelled out in the Hospital Emergency Incident Command System (HEICS), developed in 1997 by the California Emergency Medical Services Authority.

Basically, HEICS applies the well-known Incident Command System (ICS) concepts to hospital disaster operations and, for many hospital officials, serves as their first exposure to *any* formal disaster

execution of programs that meet these benchmarks is still the responsibility of each local or regional organization. The local development of emergency medical policies and procedures for health care organizations is critical, therefore, to ensure that organizations are prepared for and in position to respond to likely events based upon state or region probabilities (e.g., Florida or Gulf Coast hurricanes), while also maintaining preparedness for the unlikely terrorist event.

An Abundance Of Training Guidelines

Although only a minimum of disaster training is mandated for emergency

FY 2006 DHS/HHS Preparedness Programs

| Program Title | Month Issued | Application Deadline |
|---|---------------|----------------------|
| Emergency Management Performance Grants | November 2005 | December 14, 2005 |
| Homeland Security Grant Program (19 Grant Programs) | December 2005 | March 2, 2006 |
| Homeland Security Preparedness Technical Assistance Program | January 2006 | April 9, 2006 |

to mass casualty disasters, emergency medical staffs perform the disease analyses required to diagnose illnesses that might result from a CBRNE (chemical, biological, radiological, nuclear, explosive) incident or event. It is difficult, in fact, to envision *any* type of incident in which the emergency department would *not* play a central role.

Preparedness Policies And Procedures

Although disaster preparedness is inherent in the mission of emergency medicine, hospital facilities that receive government reimbursement are required – by the Joint Commission for Accreditation of Healthcare Organizations (JCAHO) and the Centers for Medicare and Medicaid Services (CMS) – to have developed and tested disaster plans. In addition, a number of other organizations, both state and federal, have issued specific mandates covering such related items as personal protection equipment training and/or the handling of radioactive material.

management system. Efforts are now underway in many states to integrate HEICS with the NIMS (National Incident Management System) framework.

Most policy goals are dictated as specific benchmarks in grants allocated by the HHS’s Health Resources and Services Administration (HRSA). Organizations, typically grouped by geographical regions, apply the HRSA funding they receive to meet specific goals, such as increasing surge capacity and/or implementing specific mandates spelled out in the Modular Emergency Medical System (MEMS) guidelines. Additional policy guidance comes from position statements provided by national medical organizations such as the American College of Emergency Physicians (ACEP) and the National Association of EMS Physicians (NAEMSP).

Nonetheless, although significant guidance and policy goals may have been received from both federal agencies and recognized national organizations, the

medicine providers, most emergency medicine residency does require at least some training in disaster management. Fellowship training in EMS and/or disaster management also is available, as is training in various other related subjects – e.g., trauma surgery, toxicology, and infectious diseases.

In addition, HEICS and NIMS (National Incident Management System) training has become increasingly common for hospital staffs involved in disaster management. Nonetheless, most U.S. emergency departments and hospital staffs still have little formal training in disaster preparedness and management. This is particularly important given the fact that most U.S. homeland disasters are what are called Level I incidents, which are managed primarily by local personnel.

A broad spectrum of standardized courses has been developed to train providers to cope with disaster situations. The American Medical Association, for

example, developed a National Disaster Life Support (NDLS) program. The curricula for Basic Disaster Life Support (BDLS), Advanced Disaster Life Support (ADLS), and Pediatric Disaster Life Support (PDLS) were developed by other organizations.

Healthcare workers also can participate in federally developed preparedness training programs. Both the Federal Emergency Management Agency (FEMA) and the United States Fire Administration (USFA) offer online certifications in a number of important fields. In addition, several state centers for domestic preparedness provide specialized hands-on training for a variety of disaster situations. Building on existing programs is recommended, though, so that future funding does not duplicate efforts already underway.

An initiative specific to the emergency department, the so-called ER-One project, has been established to develop an “all-risks ready” emergency department that could serve as a national model for urban emergency department preparedness. When completed and externally validated, ER-One will represent a formal “best practices” application for emergency department disaster preparedness.

Technological And Equipment Improvements

Advances in technology have been crucial in improving and upgrading provider training, disaster preplanning, and incident management. A number of internet-based resources and training programs have been developed to deal with biological terrorism and other threats. Among those resources are some innovative slide presentations, interactive scenarios, video clips, and examinations. Real-time video conferencing allows remote training to be carried out from specialized training centers, and permits increased collaborations as well. High-fidelity simulators often are employed to improve teamwork training. Novel technologies such as virtual-reality systems are used by military as well as civilian

training centers to maximize the realism of disaster events.

Computer modeling also is becoming increasingly important in disaster planning. Sophisticated models can be used to predict just about every phase of a disaster from toxin dispersion to the arrival of patients at a hospital or other medical facility. Computers also can be used to quickly calculate surge capacities and to serve as MEMS staffing models. In addition, handheld computers, bar code systems, and advanced radios and instant messaging systems already have led to major improvements in communications, patient tracking, and resource utilization.

Computer models for patient triage – e.g., the Sacco Triage Method – and for patient distribution also are being developed. From the decision makers’ point of view, the use of GOTS (government off the shelf) training tools is a cost-effective approach that should be recommended to state, local, and private-sector first responders.

The Challenges Faced, And the Lessons Learned

Many of the lessons learned from disaster planning are universal in scope. Communications must, can, and should be improved through a combination of preplanning, the use of advanced technology, and the establishment of an appropriate command hierarchy. Training also has to be emphasized – and frequently repeated.

There are, in addition, certain lessons learned that are particularly relevant to the emergency department itself – for example, the recognition that most incoming patients from a disaster will arrive at the hospital (or other medical facility) by private vehicle, a fact that has direct and important implications for the decontamination and patient-triage processes. Moreover, sicker patients often arrive later than those who are in somewhat better condition, especially in situations where rescue is required. That combination of circumstances may force a paradoxical

reservation of resources during the early stages of a disaster to remain prepared for the more seriously injured patients expected later.

Another fact of life that has to be dealt with – primarily because so many emergency departments operate near or at maximum capacity every day – is that truly realistic drills for emergency department staff usually will be extremely limited. There has been an increasing push in recent years for evidence-based and validated practices, but the low frequency and unpredictability of disasters makes research in this area exceptionally challenging, and standardized “best practice” models are therefore very difficult to develop. (However, applicants may apply for funding to build these types of models.)

In summary, it seems evident that the basic framework for capturing federal funding by partnering with state and local government agencies is already in place. The government’s grant-management system may take time, though, to get actual dollars into the hands of emergency medical teams. However, establishing programs *now* will result in an improved funding stream later. In short, navigating through the current grant-management system requires a clear understanding of the requirements, the development of a persuasive stakeholder strategy, and the writing of a clear and comprehensive outline for a proposed project that will improve emergency medicine.

Ms. Ungar is the CEO of Nolan Mar International, Inc., a global management consulting firm focused on the defense and homeland security marketplace. She has over 20 years of government and commercial consulting experience and a proven track record in government and industry strategic planning, program management, risk management, and cost effective project execution.

Dr. Daniel Avstreith, an emergency-room doctor and medical consultant for Nolan Mar HERT (Health Emergency Response Team), contributed to the writing of this article.

First-Person Report**Medevac From Iraq: The Lessons Learned**

By Peter Menk, Military Support



While the focus of the Domestic Preparedness web site is on the first-responder and emergency-management communities, the Global War on Terrorism links events that occur overseas to the defense of the nation's homeland. The following article, which focuses on the process for evacuating injured soldiers, provides some insights on how those processes and the lessons learned in general from the war in Iraq can be applied within the United States itself.

In a truly catastrophic domestic event the nation's first responders frequently are among the victims, and must therefore be treated compassionately. But the need for their services also requires on many occasions that they be returned to duty as quickly and as efficiently as possible. The medical evacuation process used by the nation's armed services to handle troops wounded in Iraq may offer some insights into developing a system that would be useful in U.S. domestic emergencies as well.

An Air Force nurse finished strapping the soldier into a jump seat, one in a row of seats for about a dozen ambulatory patients seated along one interior side of the cavernous interior of a C-17 airlift aircraft, the U.S. military's workhorse logistics airplane. This C-17, specially equipped for medical-evacuation (medevac) purposes and staffed with a number of physicians as well as nurses, had arrived in the darkness in Balad, Iraq, from Germany a couple of hours before.

In the much subdued lighting a nurse gently touched a soldier as a parent would a small child, whispering reassuring words into the soldier's ear while reading the diagnosis summary paper each of the evacuees had carried with him (or her) onto the aircraft. The nurse moved on to the next soldier down the row of jump seats and, finding her

in pain, checked her paperwork and made certain she had pain medications available to her.

The nurse moved the second patient to one of the stretchers and tied her down for the flight, wrapping her in a blanket to guard her against the risk of hypothermia (the temperature would quickly drop more than 30 degrees shortly after the C-17 became airborne).

***Two stretchers
holding bodies
under a tangle of
plastic tubes & pumps***

***White Bandages
And Bold Black Letters***

In front of the jump seats were two lines of stretcher bunks running the length of the aircraft. The bunks, stacked three high, were held in place by metal arms mounted on the floor of the C-17's passenger deck. Some of the mounted stretchers held the forms of those who had been carried on board following the ambulatory patients. A number of other vacant stretcher bunks and blankets were available for the ambulatory patients themselves.

The Air Force doctors and nurses moved between their patients, checking each one quickly and professionally. Some of the patients were conscious; others were not. Some were hooked to IVs, others were sleeping, or unconscious, or maybe just holding their eyes closed. Among the worst wounded were a number of patients who had survived the most common causes of death among the combat fatalities, but were (or had been) bleeding from arms or

legs that had been smashed or explosively amputated; several were bleeding and/or choking from serious facial wounds.

Two stretchers, holding bodies almost completely covered by a tangle of plastic tubes and pumps, that had been carried on board were particularly noticeable. The skulls of the soldiers on the two stretchers were covered with thick white bandage caps on which was written, in bold black letters, "no bone." Each of these two patients was attended by a team of two nurses constantly adjusting and checking their respective patients. One nurse had a small pen light that she flashed into the eye of her patient, then turned and moved her hands in a closing contracting motion and received a thumbs-up in return from the other nurse.

These two soldiers, and several of those missing portions of limbs, probably owe their lives to the new training requirements to train certain soldiers as combat life savers (CLSs). Every squad that goes "outside the wire" now includes at least one CLS-trained soldier equipped with an innovative and surprisingly comprehensive first-aid kit. The Army's realistic CLS first-aid training now saves an estimated ten percent of wounded/injured soldiers who otherwise probably would die in the field.

In today's combat operations, a wounded soldier can quickly receive from his fellow soldiers the immediate first-aid care needed to stop profuse bleeding, and/or to open airways, until a combat medic or military doctor or nurse can take over. The lightweight CLS first-aid kit includes, among other emergency necessities, a tube that can be inserted to open an airway, a useful and easy-to-handle tourniquet, and a pressure HemCon bandage.

Pre-Dawn Takeoff Mandatory

The rear of the C-17 was open, giving the patients a full view of the darkness beyond

– but the sky was now showing the first signs of coming dawn. The murmuring, not demanding in tone, but a whispered beseeching, started somewhere down the line. Each patient in turn found himself or herself repeating the words, almost like a prayer, “time to go.” They all knew that, once dawn had arrived in full force, the massive C-17 would be visible for miles around, and would be an open invitation to enemy mortar fire.

The C-17 lifted off the runway just as dawn broke. The six-hour daily medevac flight from Balad to Landstuhl, Germany, carried twenty-five medical evacuees and an almost equal number of medical-team members.

AMEDD (the U.S. Army Medical Department, Office of the Surgeon General) keeps close track of the number of Army

soldiers evacuated from a combat zone, and the reasons why they had to be evacuated. In 2005, the U.S. Army averaged 120,000 soldiers in-theater in Iraq on any given day. An average of twenty-three soldiers per day were medically evacuated from the theater, or a total of approximately 8,400 for the entire year. Of those twenty three, three had been wounded in action, seven had received non-battle injuries, and thirteen were suffering from some type of disease.

The top three reasons for the wounded-in-action evacuations were: (a) explosions (improvised explosive devices or IEDs, primarily), 66.7 percent; (b) gunshot wounds, 15.3 percent; and (c) wounds caused by RPGs (rocket-propelled grenades), 7.8 percent. The top three reasons for non-battle-injury evacuations were orthopedic problems, 62.6 percent, surgical problems, 37.1 percent, and

dental problems, 0.2 percent. The disease evacuations were listed as 44.4 percent medical, 43.8 percent surgical, and 11.4 percent psychiatric.

Traumas, Triage, And Reevaluations

The climate, the overall physical environment, and the unique combat conditions in Iraq have generated a broad range of medical-assistance needs for U.S. soldiers serving in-theater in Iraq. The U.S. Army’s evacuation policy for Iraq postulates that an evacuation decision must be made within a seven-day window when a soldier requires medical aid. The primary goal at every stage of the process, though, is to return the soldier to duty as soon as possible. And, in fact, the overwhelming majority of soldiers who require medical aid are treated in-theater and returned to duty within three days.



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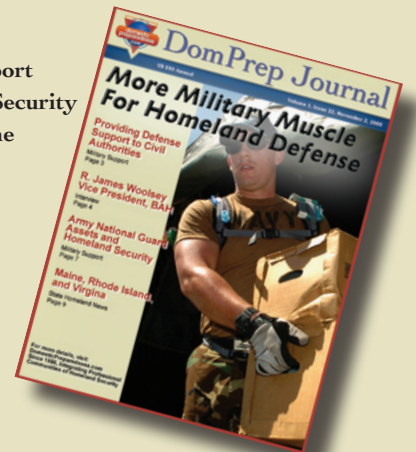
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There is at least a clinic available at all of the U.S. Army's principal operating bases in Iraq, and three Level 3 trauma centers in-theater as well. All soldiers are treated thoroughly, professionally, and with compassion. Initially, a good-faith effort is made to address the medical condition in-theater. If the medical resources needed are not available in-theater to treat the condition, the soldier is eligible for evacuation.

Prominent among the more important factors used to determine if a soldier should be evacuated are medical/military judgments as to whether he or she is able to continue to contribute to the mission in his/her condition and/or if he or she might be dangerous to himself/herself or to others. The soldiers who have to be evacuated are triaged first and rated urgent, priority, or routine – the patients are reevaluated, though, at each step of the evacuation process.

It takes time and considerable resources to evacuate a soldier from Iraq. The risk of travel itself elevates the danger of an attack or accident for everyone involved. The most seriously wounded, injured, or ill soldiers are evaluated for evacuation at one of the trauma Level 3 hospitals in-theater (including one in the so-called "Green Zone" in Baghdad). Some are brought in by ground convoy, but most are carried by Black Hawk medevac helicopters. Those who are certified for evacuation are stabilized and transported via Black Hawk helicopter to Camp Anaconda, a massive Saddam-era airbase near Balad, which is about a 45-minute flight north of Baghdad.

Apache gunships cover the flight of the medevac helicopters. In addition, the flights are launched in darkness, whenever possible. The insurgents target U.S. and allied medical personnel and equipment every chance they get.

The Balad Air Force Theater Hospital includes three intensive-care wards and is capable of dealing with a wide scope of

medical problems, including brain, spinal, ear, and eye injuries. On the hospital's staff are a number of trauma and orthopedic surgeons as well as mental-health and physical-therapy specialists, all of them serving in an H-shaped medical warren of air-conditioned tents pitched on a concrete pad on the tarmac of the airfield.

Ready for Duty – Or "Not Fixable"

Many soldiers treated in Balad are returned to duty in-theater. Of those evacuated to Germany, many are treated at Landstuhl and returned to duty with their units in Iraq. Those evaluated as suffering chronic conditions – or, as the troops say, are "not fixable" – are evacuated to the United States.

The Walter Reed Army Medical Center in Washington, D.C., receives and treats many of the soldiers who are missing limbs – most in this category, however, are returned to the military base from which they were mobilized. For example, Womack Army Hospital at Fort Bragg, N.C., has a Medical Hold Company assigned to manage the care of a constantly changing group of approximately one hundred soldiers. The soldier's stay in the stateside medical-hold companies is usually not less than two months. After that, the soldier is either returned to duty or referred to a medical board system for consideration for discharge from the active service.

The stateside applications of the lessons learned from the U.S. military's experience in evacuating injured personnel from Iraq already are being used in some domestic medical-emergency and disaster situations. Other applications are being considered – e.g., the practice of ensuring the availability of a CLS-trained individual, an example that easily could be applied to first-responder teams working in high-risk situations. The medical and logistics techniques acquired and refined in transporting severely injured soldiers also

Evacuating a soldier from Iraq takes time ... risk of travel elevates the danger of an attack

could readily be used in responding to catastrophic or near-catastrophic disasters and emergencies involving large numbers of traumatic injuries.

An important footnote worth mentioning: Many of the military medical personnel serving in Iraq are members of National Guard or Reserve units. In their civilian lives, as well as in their military careers, they serve as medical professionals. Hence the skills, knowledge, and training that they learn from their experience in the combat theater *will* be applied in various ways when they are carrying out their civilian first-responder duties.

Decision makers at all levels of government should take comfort from the fact that a broad spectrum of combat-tested medical skills will quickly be available when the U.S. military is again called upon to provide support to civilian agencies during a major domestic disaster that injures and/or incapacitates scores and perhaps hundreds of people.

The author of the preceding article knows his subject from firsthand experience. He was a military medical evacuee from Iraq.

Peter Menk entered the Army in 1968 and has served in all three components of the Army, Regular, Reserve, and National Guard. He is presently a Colonel, JAGC, in the Individual Ready Reserve, USAR. His military experience includes service in the artillery, Judge Advocate General's Corps, as a strategist, as an international law expert and as an expert in homeland security. ▼

Indiana, Florida, and Arizona

By Adam McLaughlin, State Homeland News



Indiana **State DHS Unveils New Strategic Plan**

The Indiana Department of Homeland Security (IDHS) has unveiled a comprehensive new strategic plan governing the state's homeland-security policies, operations, and funding initiatives. The new plan, released yesterday, outlines eight strategic goals focused on, among other things, planning and risk analysis, training and response, and the need for teamwork.

The intent of the plan is to help the state improve its overall preparedness to deal with manmade as well as natural disasters. The plan already has been approved by the Indiana Counter-Terrorism and Security Council, a multi-agency body headed by Lieutenant Governor Becky Skillman. The plan "shows Hoosiers we are committed to ensuring their safety and security," Skillman said. "It allows us to build on the progress that has already been made and ... [provides] the focus needed to move forward with new initiatives."

"The development of this plan is an important step toward achieving our vision of becoming a nationally recognized leader for an effective, comprehensive homeland-security system," added IDHS Executive Director J. Eric Dietz. "The execution of the plan will help ensure that Indiana is as prepared as possible for any future event that we may be confronted with," he said.

Florida **Hazardous-Weather Awareness Week Promoted**

The state of Florida last week carried out its annual statewide campaign to educate both residents and visitors about a broad spectrum of weather-related dangers that might affect them. The principal focus of several statewide activities carried out by Florida emergency officials during the week

was on different weather hazards that people living in or visiting the Sunshine State might encounter at various seasons of the year.

The week started off with lightning awareness day. Tuesday's focus was on marine hazards and rip currents. On Wednesday, tornadoes and thunderstorms were highlighted. Thursday's theme was hurricane and flooding awareness, and Friday finished up the week with information related to the dangers caused by temperature extremes and wildfires.

State officials have been promoting weather-hazard awareness since 1999, designating a special week for the project, and emphasizing different themes. This year's theme was "Above all, Prepare and Stay Aware!" The state's emergency officials recommended that residents use the week both to learn about and to prepare for weather hazards. Among the specific activities recommended were family discussions on weather dangers, the identification of safe areas within the home, the escape routes to use if needed, and the designation of places where the family would meet if and when a weather disaster strikes. The restocking of emergency supplies and educational sessions on topics such as first aid also were emphasized.

Almost 700,000 copies of *The Hurricane Herald*, a publication produced by the Florida Department of Community Affairs and the state's Division of Emergency Management, were distributed to elementary students throughout the state to complement the broad spectrum of programs on the week's busy schedule.

Arizona **State of Emergency Extended At Border With Mexico**

Arizona's Democratic Governor, Janet Napolitano, has extended a state-of-emergency order dealing with problems at the Mexican border to give local government

officials the additional time needed to allocate \$1.5 million in state emergency funds that was appropriated to improve law enforcement at the border and deal with other immigration matters.

Napolitano issued the original state-of-emergency order, which applies to the Arizona counties bordering Mexico, last August. Her renewal of that order extends the emergency until August 2006 – long enough, she suggested, to give local governments the time required to determine how to use the state funding most effectively.

Arizona has been a favorite entry point for illegal immigrants for several years, and for drug trafficking from Mexico as well. The heavy influx of illegal immigrants and drugs has created major problems for state and local police agencies, and also has strained the state's overburdened prison capacity. Earlier, Napolitano included a \$100 million immigration and border security package in her budget, and said she favors both a guest worker program and the imposition of state fines against employers who hire illegal aliens.

Arizona Republicans have been critical of Napolitano on the immigration front, asserting that she has started to focus on the issue only because this is an election year. They also have charged that her border budget plan does not provide funding specifically earmarked for enforcement and includes too much money that can be dispersed only by the governor. Some Republicans also favor construction of a border wall, an idea that Napolitano opposes on the grounds that it would be not only too costly, in her opinion, but also ineffective.

Napolitano's border emergency declaration last year coincided with a similar declaration by New Mexico Governor Bill Richardson, also a Democrat. Both governors have been critical of the Bush administration, and of the Republican-controlled Congress, for not moving more quickly to provide the additional funding needed both to reduce illegal immigration and to improve border security in general. ▼

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