

Chapter Two

Headquarters Response and Recovery Operations

INTRODUCTION

The US Army Surgeon General, Lieutenant General James B Peake, was chairing a weekly command and staff conference at his office in the Skyline Towers complex in Falls Church, Virginia, 3 miles from the Pentagon, when staff members informed him of the first attack on the World Trade Center. He stopped the meeting and turned on the television to watch the drama unfold on CNN. While pondering whether the Army Medical Department might be requested to move medical assets to New York to help with the response there, he received a phone call from Major General Harold Timboe, commander of Walter Reed Army Medical Center (WRAMC), who was thinking along the same lines. General Timboe also headed the North Atlantic Regional Medical Command (NARMC), which extended from Fort Drum, New York, to Fort Bragg, North Carolina, to Fort Knox, Kentucky, and which would have charge of any Army medical response to what had happened in New York. (NARMC, now NRMC, Northern Regional Medical Command, is one of six regional medical commands with discreet area responsibilities under the Army's Medical Command [MEDCOM], headed by the Army surgeon general. The others are the South East Regional Medical Command [SERMC; now SRMC, Southern Regional Medical Command], the Great Plains Regional Medical Command [GRMC], the Western Regional Medical Command [WRMC], the European Regional Medical Command [ERMC], and the Pacific Regional Medical Command [PRMC].) Another hat General Timboe wore was the lead agent regional director for Tricare Northeast Region One, which was one of 11 Tricare areas in the United States. Timboe and Peake were still on the phone when the second plane hit the south tower of the World Trade Center. The two medical men discussed the likelihood of sending doctors and nurses to reinforce New York City, or to care for patients transferred to Washington, DC, should the Army Medical Department receive these tasks. After finishing their discussion,

the generals returned to their commands to prepare for a possible mission to New York.^{1,2(p1)}

Any Army Medical Department response would have to fit into the framework of the Federal Response Plan, the basic blueprint the government used to designate responsibility for essential support functions in a major emergency. Under the plan, the US Public Health Service of the Department of Health and Human Services would be the lead organization if a crisis occurred. The Department of Defense (DoD) was second-in-command under the Health Service. The plan was flexible enough to permit all sorts of ancillary arrangements required by crisis managers, but under it, any initial response by the Army Medical Department to the crisis in New York City required a call from DoD.³

While Peake and Timboe were considering the various roles they might take in the crisis, American Airlines Flight 77 hit the Pentagon. As NARMC commander, Timboe had responsibility for the medical response to the attack, so Peake phoned him back immediately to ask if the Pentagon had a mass casualty plan. Timboe replied that the Pentagon's DiLorenzo Tricare Health Clinic had a plan that involved civilians as the principal first responders. He also told General Peake that the Medical Department would have to marshal the military medical resources of the capital area (continuing dialogue between General Peake and General Timboe lasted throughout the emergency).¹

The two already had a good working relationship based on their service together at Fort Bragg, North Carolina, in the 1990s and at Walter Reed from 2000 on. Each knew what to expect of the other one because they had responded jointly to crises in the past. Both had been stationed at Fort Bragg during the 1994 Green Ramp incident, when the 82d Airborne Division suffered 24 men killed and approximately 130 injured after two planes collided over nearby Pope Air Force Base. Both had responded simultaneously to the disaster, Peake (then a brigadier general) as commander of the 44th Medical Brigade, and Timboe (then a colonel) as commander of the Womack Army Medical Center. In reacting to the attacks of 9/11, they would draw on their experience at Fort Bragg.⁴

WALTER REED ARMY MEDICAL CENTER/NORTH ATLANTIC REGIONAL MEDICAL COMMAND

During his career as an Army physician, General Timboe had participated in at least six unexpected mass casualty emergencies, some of them involving more than 100 victims. "So I think some of that helped frame my reactions to what my responsibilities might have been [on 9/11]," said the former line officer, who had trained as a family physician at Tripler Army Hospital in Honolulu and served in Vietnam and Desert Storm. On 9/11, he said, he thus knew enough to surround himself with "the right staff to execute and follow up." One of his first steps was to appoint a captain to keep timelines to record information coming in and document the decisions being made.¹

By chance, WRAMC had undergone a timely rehearsal for the events of 9/11.



The official photograph of the US Army surgeon general, Lieutenant General James B Peake, Medical Corps.

Photograph: Office of Medical History, Office of the Surgeon General, US Army.



The official photograph of Major General Harold Timboe, Medical Corps, Commander, Walter Reed Army Medical Center.

Photograph: Office of Medical History, Office of the Surgeon General, US Army.

During the summer of 2001, the base had a power outage that necessitated putting emergency procedures into place and evacuating patients to the National Naval Medical Center in Bethesda, Maryland. The emergency lasted nearly 4 days and was a “stressful period,” recalled Timboe.¹

After finishing his conversation with the surgeon general, General Timboe focused on supporting the Pentagon. He alerted WRAMC emergency room staff to prepare to receive casualties and to ready ambulances, healthcare teams, and equipment for service at the Pentagon. He told Colonel Michael A Dunn, commander of the Walter Reed Health Care System (responsible for Army healthcare in Maryland, Virginia, and the District of Columbia) to cancel nonessential surgery, discharge patients with less than life-threatening ailments, and prepare Army hospitals in the national capital region for the emergency. The DiLorenzo Clinic at the Pentagon, the DeWitt Army Community Hospital at Fort Belvoir, Virginia, about 15 miles away, and the Andrew Rader Army Health Clinic at Fort Myer, Virginia, about 1 mile from the Pentagon, were already responding independently to the attack.¹

As command surgeon for the Military District of Washington, Dunn was responsible for medical response and the protection of Army medical installations in the national capital region. He immediately made sure that these facilities set up emergency operations centers to handle the flow of information and assemble medical teams. To establish such a center at WRAMC, Dunn would normally have called upon his operations officer, Colonel Larry Bolton, the WRAMC brigade commander. The brigade was a training unit that “soldierized” the medical staff to ensure that WRAMC was combat-ready to provide health support. However, Bolton was at a meeting at Fort McNair in southwest Washington when the terrorist attacks occurred. Although Dunn telephoned him to ensure he was returning to WRAMC, Bolton’s deputy, Colonel Berthony Ladouceur, assisted by Captain Daniel McGill, deputy director of military operations and training, had WRAMC’s center in operation by 1000.^{1,5-7.}

The center combined the brigade and hospital communication facilities in the conference room of the obstetrics/gynecology clinic on the first floor of the hospital. Prewired to serve this function, the room had computer and television capabilities and phone connections that could accommodate 11 separate lines. Those assets were important to an emergency operations center, where information was collected and analyzed, and directives issued. The need to combine the two communication nodes (collecting information and distributing directives) into one was a lesson learned during WRAMC’s power outage, when there were two separate operation centers that weren’t synchronized, at times working at cross purposes, which slowed communications among WRAMC’s various elements.¹

Staffed by operations personnel from NARMC, the WRAMC garrison, and all of Colonel Bolton’s subordinate personnel, the room soon became busy with people tracking information and assembling critical care personnel, trauma teams, behavioral health teams, and special medical augmentation response teams (dealing with surgery, mental health, patient administration, and biochemical matters) to

be sent to the Pentagon, and coordinating with the Military District of Washington and military police on gate security at WRAMC. When Colonel Bolton arrived at about 1145, personnel were on the phone with area support hospitals, whose help in crisis situations had been secured by previous agreements. Besides DeWitt Hospital and the Rader Clinic, both NARMC subordinate elements, support hospitals included National Naval Medical Center; Malcolm Grow Air Force Medical Center at Andrew's Air Force Base, Maryland; Washington Hospital Center in Washington, DC; Virginia Hospital Center—Arlington in Arlington, Virginia; Inova Alexandria Hospital in Alexandria, Virginia; Inova Fairfax Hospital, in Fairfax, Virginia; George Washington University Hospital in Washington; Howard University Hospital in Washington; and Johns Hopkins University Hospital in Baltimore, Maryland. Those medical facilities were already setting up their own emergency operations centers.^{6,8}

As chairman of the Federal Health Council, National Capital Area, a Tricare responsibility, General Timboe telephoned the Naval Medical Center, Malcolm Grow, DeWitt, and Rader to make sure they had sent assets to the Pentagon. He did not have direct authority over Navy and Air Force medical personnel, but in his capacity as director of Tricare he could make requests and set actions in motion. Those medical institutions were getting involved anyway, but Timboe had to be sure.¹

Using his office as a temporary Tricare command center, the general ordered Tricare staff to track patients and determine which hospitals had admitted them. To that end, they would need to establish databases and set up linkages. At about 1030, Timboe instructed Air Force Colonel Steven Cardenus, Tricare northeast executive director, to establish a Tricare operations center in the lead agent's office at WRAMC to coordinate these efforts and prepare to send military medical liaisons to civilian hospitals.^{1,2,6}

Besides sending liaisons to area hospitals, keeping track of Pentagon patients and making sure that they received the best medical treatment, the Tricare center fielded questions from the media, government agencies, and other civilians. It also provided timely updates to the WRAMC emergency operations center, the White House; the senior military leadership; Tricare management; and the surgeons general of the Army, Navy, and Air Force.^{9(p1)}

WRAMC's Patient Administration Department, working out of the WRAMC emergency operations center, also prepared to track patients, establish databases, and set up linkages. It helped Colonel Cardenus identify liaisons for each hospital with Pentagon casualties. These military representatives reported back to the Tricare operations center, which forwarded the information to WRAMC's operations center. The Patient Administration Department also provided General Timboe and the three surgeons general with situation reports and patient information updates three times a day. Some duplication occurred in the efforts to track patients by the Tricare and WRAMC operations centers.^{1,6,10}

Meanwhile, General Timboe asked Lieutenant Colonel Edward Lucci, WRAMC's director of emergency medicine, to assemble emergency personnel

to help with casualty stabilization and evacuation at the Pentagon. Lucci put his deputy in charge of the emergency room and left WRAMC at 0950 with two ambulances, two emergency medical technicians, and two critical care nurses. With sirens blaring, the vehicles drove through horrendous traffic down 16th Street and across the 14th Street bridge to the Pentagon. Arriving quickly given the circumstances, they went immediately to the north parking triage station. The two ambulances were the first to arrive on that side of the building, and patients and personnel in the area rushed to them. The ambulances took two burn patients and one orthopaedic casualty back to WRAMC “within the first golden hour of the attack,” said General Timboe. Upon arrival at the medical center at 1100, the burn patients received critical airway management. Ten minutes later, one of the ambulances was on the way back to the Pentagon.^{1,11}

While the ambulances were evacuating patients from north parking, WRAMC sent two busloads of doctors, nurses, and other healthcare providers under DoD police escort to the Pentagon to assist with the treatment and evacuation of casualties. Among the group sent to the Pentagon was a graduating class of enlisted personnel students (91C military occupational specialty [MOS]) trained for a high degree of readiness. Some of these providers returned to WRAMC when it became clear that too many responders were already at the Pentagon.^{1,7,12}

At about 1400, WRAMC deployed its chemical-biological augmentation team to the Pentagon in a hazardous materials (HAZMAT) truck that used its loud sirens to get through traffic. The team’s members, highly trained doctors, nurses, and enlisted technicians, were assigned as litter bearers until Dr Lucci intervened and pulled them aside to help the environmental specialists who were beginning to gather outside the building.^{5,8}

Meanwhile, video teleconferences became the way General Timboe, General Peake, and medical commanders worldwide were informed of the Army’s medical response to the tragedy. At an 1100 video session, General Timboe updated the surgeon general on the Pentagon patients and on medical activities involving Site R, the Pentagon’s underground alternate location for its senior staff near Camp David, Maryland, which the DoD activated within the hour. Surgical teams from Fort Meade, Maryland, went to Site R, where they had available equipment sufficient to operate a 25-bed hospital. At about 1130, General Timboe held a teleconference with NARMC’s subordinate hospital commanders to get their feedback and provide them guidance. He learned that these officers were on heightened levels of security and had already established emergency operations centers. DeWitt Army Hospital had already dispatched ambulances, emergency medical teams, and behavioral health teams to the crash site. DeWitt had 52 beds, four operating rooms, and three ventilators available should they be needed. Behavioral health staff from Fort Monmouth, New Jersey, were meanwhile preparing to assist the medical staff at Fort Hamilton in Brooklyn, New York, and medical personnel from Fort Monmouth’s Patterson Army Hospital were considering establishing primary care at Fort Hamilton. Fort Monmouth’s staff also were preparing to support mortuary affairs in New York City if necessary. Keller Army Community

Hospital at West Point was concerned about contract emergency room physicians getting to the hospital.^{1,2(pp1,4)}

During the afternoon, General Timboe continued to receive updates from NARMC commanders; frequently visited the operations center at WRAMC; and held meetings with the brigade commander, the inspectors general, and the Tricare lead agent. He had teams earmarked to go to Dover Air Force Base, Delaware, site of the DoD's only domestic mortuary, to help with body identification, and he authorized the delivery of medical supplies by air and ground transportation to the Pentagon. Medical evacuation helicopters from the Maryland National Guard flew supplies from WRAMC to the crash site. The same helicopters flew Timboe to the Pentagon at 1430 to offer encouragement to the responders. He did not stay long; by then, the situation at the Pentagon seemed to be well in hand.^{1,2(p2),12}

After returning to WRAMC, Timboe received updates from the WRAMC and Tricare operations centers, and held another teleconference with the NARMC medical treatment facilities' commanders at 1630. He learned that half of the medical team had arrived at Site R and that the US Army Reserve 8th Medical Brigade at Fort Hamilton had been activated. The general requested bed status reports from the military hospitals at Fort Belvoir and Fort Eustis, Virginia, and from the National Naval Medical Center and WRAMC.^{2(pp2,3),5,7,13}

After the initial response, WRAMC's operations center continued to focus on emergency operations, mental health, industrial health, and trauma support. Emergency operations comprised tracking patient information, monitoring logistics packages going to the Pentagon, and keeping contact with liaison officers at civilian hospitals. The mental health effort included staffing and rotating teams to deal with personal emotional difficulties resulting from the disaster. To that end, three mental health teams, each consisting of a psychiatrist, social worker, psychiatric nurse, chaplain, and enlisted soldier, were sent from WRAMC to the Pentagon. Industrial health entailed staffing and alternating teams to handle the environmental issues that emerged from the cleanup following the attack. This effort included collaboration with the Medical Department's Center for Health Promotion and Preventive Medicine (Aberdeen Proving Ground, Maryland), occupational health members of the DiLorenzo Clinic, and WRAMC's preventive medicine personnel. WRAMC's operations center personnel also sent six trauma support teams, consisting of a surgeon, anesthesia provider, critical care physician, orthopaedic surgeon, critical care nurse, pharmacist, and medic, to the Pentagon. Two teams deployed on 8-hour shifts provided on-site care to firefighters and recovery and morgue personnel. A physician team member entered the destroyed wedge to pronounce deaths. Surgical-medical teams took turns at Site R. The team from Fort Meade, consisting of 31 clinicians with 100 units of blood and sufficient medical supplies, was fully deployed to Site R on 12 September. An Army nurse with the team remarked, "Our staff was excellent. We felt very well trained and prepared, and everyone had a great attitude."¹

During the week, General Timboe continued to hold operations center updates and twice a day teleconferences with medical treatment facilities around the

North Atlantic region. He also participated in daily meetings or teleconferences (except on Saturday and Sunday, when communication was by telephone) with the surgeons general of the Army, Navy, and Air Force, during which the three exchanged information and prepared to coordinate new requirements and issues stemming from the attack.⁵

Because everyone was reporting information to the DiLorenzo Clinic, NARMC established an operations center on Friday, 14 September, in the clinic's small conference room. Captain McGill led this new communication center under the guidance of Lieutenant Colonel John Felicio, the clinic's deputy commander. Also, because WRAMC wanted to keep a handle on mental health efforts and environmental health operations at the Pentagon, mental health administrators set up a small operations center in DiLorenzo's Wellness Center, and the Center for Health Promotion and Preventive Medicine installed a third center in the industrial health section of the clinic.^{2(p4)}

General Timboe also held a teleconference on 14 September with regional medical treatment facilities. He authorized Fort Bragg, Fort Drum (New York), and Fort Belvoir to hire additional civilian staff to cover potential deployments. The Fort Meade Site R team that returned on the 13th briefed the surgeon general on its experience at Site R. Fort Monmouth's Patterson Army Health Clinic began augmenting primary care at its subclinic at Fort Hamilton through the weekend to take care of mobilized reservists and National Guard troops who lived in the area while they worked at ground zero. Fort Monmouth's patient administrators queried civilian hospitals in the New York/New Jersey areas to identify military patients with needs.^{2(pp4.5)} Also on the 14th, at 1335, Timboe, Peake, and the Office of the Surgeon General's director of healthcare operations, Colonel Fred Gerber, discussed sending additional staff and occupational health specialists to the Pentagon and to Army facilities in Northern Virginia. They decided to advise the Center for Health Promotion and Preventive Medicine, which was conducting air quality checks at the Pentagon, to campaign to improve the public's confidence in the quality of the air in and around the building based on their findings. All three services were to work independently on this safety and public relations mission.^{2(p5)}

At 1600, General Timboe learned during an update that the mission of the USNS *Comfort* had changed from providing frontline medical assistance to supporting New York City recovery workers with food, laundry services, and hot showers. Army medical staff members, who reinforced the Naval Medical Center while Navy personnel served on board the hospital ship, were to return to WRAMC on Monday, the 17th. Timboe finished out the week with conference calls to the surgeons general on Saturday and Sunday.^{2(p5)}

DEWITT ARMY COMMUNITY HOSPITAL

Fort Belvoir's DeWitt Army Community Hospital, which was under WRAMC's command, and the only inpatient military medical facility in Northern Virginia, went into mass casualty mode as soon as the plane hit the Pentagon. Under the

guidance of DeWitt's commander, Colonel Eileen Malone, the hospital set up its operations center, did a bed count, checked its blood supply, and contacted the Red Cross and Inova Mount Vernon Hospital to obtain more blood. Many surgeons, anesthetists, and operating room staff were on duty that day, so Colonel Malone had no need to call in more personnel. Instead, she sent some of her people to the Pentagon to help, "and they were some of the first on site." At General Timboe's request, she also dispatched two ambulances to the crash area. Once their crews were there, they sent DeWitt's operations center information about what was happening at the Pentagon. Fort Belvoir dispatched military combat engineers to aid the firefighting teams in inspecting and maintaining the safety of the Pentagon to prevent injury to search and rescue teams and recovery personnel. At Fort Belvoir, the hospital was prepared to receive casualties, and its healthcare providers were awaiting arrival of the first patients.¹⁴

Meanwhile, knowing that the attack would affect the entire Pentagon community, DeWitt dispatched behavioral health teams, its chief of social work, a clinical psychologist, and family advocacy members to the crash site. As the day wore on, realizing they would not have to provide evacuation of casualties, the hospital pulled back some of its ambulances. However, DeWitt increased its behavioral health team members to assist family members of Pentagon staff and flight passengers who had not been accounted for.¹⁴

Throughout the tragedy, Colonel Malone stayed in touch with Colonel Dunn, commander of the Walter Reed Health Care System, and participated in daily teleconferences with General Timboe to discuss key issues and to give him her status report. Malone also remained in contact with the Fort Lee mortuary team, housed at Fort Belvoir, who might need counseling because of the morbid nature of their work at the Pentagon.¹⁴

ANDREW RADER US ARMY HEALTH CLINIC

The primary mission of the Rader Army Health Clinic, located 1 mile from the Pentagon at Fort Myer, was to provide high quality healthcare to about 13,000 military family members in the national capital region. The clinic emphasized prevention and wellness and had no emergency services. Because it was part of the medical command at Fort Belvoir, clinic commander Colonel John Roser reported to Colonel Malone.¹⁵

While Rader personnel were aiding in the rescue effort at the Pentagon (see Chapter 1), clinic staff established an emergency operations center in the hospital's administrative area. During the first 2 hours, the operations center handled a number of actions. It sent a clinic member to staff the Fort Myer emergency operations center to help coordinate the post's medical response to the tragedy; requested additional staff and equipment from DeWitt Army Hospital; insured that the Fort Myer provost marshal's office notified routine patients that appointments were canceled and they would be denied access to the post; directed blood donors to telephone the Red Cross or Inova Hospital Blood Services in North-

ern Virginia; coordinated with Virginia Hospital Center–Arlington to receive and transport emergency patients from Rader; and meshed assets and actions with the Navy Annex Health Clinic at Henderson Hall, located approximately 200 meters southeast of the Rader Clinic.^{16(p2),17(p2)}

The most important of Rader's activities, however, may have involved its efforts to provide mental health support to the military community in the greater metropolitan area. During the recovery effort, behavioral health teams counseled soldiers of the 3d Infantry Regiment (the Old Guard) who were engaged in the removal of human remains from the Pentagon. For weeks after the tragedy, Rader's mental health experts, including child and adolescent psychologists, also helped military units and their families to understand the normal grieving process.^{15,17(p3)}

OFFICE OF THE SURGEON GENERAL/MEDICAL COMMAND

The video conferences started by General Peake within an hour of the assault on the Pentagon, updating medical staffs around the world on activities in Washington and New York and planning for possible responses, were continued throughout the crisis. "So," Peake said, "because of the communication set up, we very quickly had situation awareness throughout the Army Medical Department worldwide."^{18(p13)} Also within the first hour, the Office of the Surgeon General set up its own emergency operations center at its headquarters in Skyline Towers. The establishment of the facility was the responsibility of Colonel Fred Gerber's Directorate of Health Care Operations, which in normal times served as the surgeon general's operations center. According to Lieutenant Colonel Patrick Wilson, aviation staff officer at Health Care Operations, who worked the surgeon's desk on the crisis action team floor of the Army operations center in the Pentagon:

In that regard [Health Care Operations] act[s] as a battalion or a group S-3 [operations], directs the activities, not only of the Surgeon General's Office down towards the MEDCOM [responsible for medical facilities and personnel], which then radiates out towards the regional medical commands, but upwards integrating in with the Pentagon and our sister services to make sure that we operate as seamlessly as we can.¹⁹

During the response to the attack, Colonel Gerber managed the emergency operations center in Washington in conjunction with the operations center at Fort Sam Houston in San Antonio, Texas, where the majority of Health Care Operations' administrative activity took place (both MEDCOM centers were under the US Army Surgeon General, and their senior staff had offices at both Skyline and San Antonio). Both centers exchanged information with Department of the Army headquarters-level agencies and with the WRAMC operations center, which provided Health Care Operations with numbers of projected casualties, beds available, and medical personnel already deployed. Lieutenant Colonel Bruce McVeigh, chief of current operations in the national capital region, and Major William Schiek, a Health Care Operations officer in Washington, who had already formed a crisis action team after the attack on the twin towers, formed the nucleus

of the Health Care Operations center at Skyline. They were joined by logistics and healthcare policy experts. Together, the operations centers at Skyline, WRAMC, and Fort Sam Houston collected and disseminated information and coordinated the surgeon general's response to the crisis.²⁰

The MEDCOM in San Antonio, which was known colloquially as the "Office of the Surgeon General South" to distinguish it from the office in Falls Church, dealt with day-to-day business: functions such as planning, readiness, training, and mobilization efforts, and services such as clinical support, clinical psychology, behavioral health, social work, and preventive medicine. The "Office of the Surgeon General North," on the other hand, handled anything that had to do with Army policy issues and operated at the Headquarters, Department of the Army, level. The separation of the senior staff in Washington from the rest of MEDCOM in San Antonio allowed considerable independent operation between the two offices. To facilitate communication prior to 9/11, the surgeon general held weekly video teleconferences with San Antonio, and he and his senior staff made frequent visits to the area.²¹

In San Antonio, Colonel Bruce Burney, chief, Operations Division, Directorate of Health Care Operations, learned about the attack on the World Trade Center during General Peake's video teleconference on the morning of 9/11. Sitting in for Colonel Gerber, who was in the Washington area, Burney heard Peake say, "We have a potential terrorist attack."²² When the conference was over, Burney went directly to the command's operations center and saw on television that the Pentagon had also been assaulted. Determined to get the center onto a wartime footing, he sought and received help from Colonel (Retired) Roger Opio, a former MEDCOM director of operations who was working as a management analyst in the Operations Division; Colonel Glenn Mitchell, chief of the Clinical Services Division; and Major John Bukartek, deputy chief of Current Operations. The three established the crisis action team, set up the operations center, and initiated a chronological log to capture information and list events as they occurred.^{22,23} "We had a working EOC [emergency operations center] within the next hour or hour-and-a half," recalled Colonel Opio, "and it was an amazing feat to transform from a peacetime operation to a wartime footing within a short period of time."²³

The San Antonio crisis action team began investigating the Medical Department's options for supporting the DoD's response to the crisis. It contacted the Director of Military Support, a DoD agency responsible for tasking other DoD agencies, to find out if it had any missions for San Antonio. The team also looked at what their priorities would be 3 or 4 days ahead and began to plan for them. Crisis management training, required by the Army of most military personnel, was automatically incorporated into the planning process.²²

Colonel Burney directed his people to start collecting data, confirming information, and contacting the office's northern counterpart to find out what potential requirements would be presented to them. At the same time, they were to keep the surgeon general informed of the situation at MEDCOM and the regional medical

commands worldwide. The unit in San Antonio had to account for everyone in the Medical Department, and make sure that the global commands sent in their medical situation reports. These were narratives of eight or nine paragraphs that outlined ongoing “functional issues and functional actions” and how the command was responding to force protection measures within its area of responsibility. The center looked for information that would ensure continuity of operation and synchronization across the command. Major Bukartek periodically phoned Colonel McVeigh to ensure that MEDCOM captured all information and logged events as they happened.^{22,24}

At 1530 on 9/11, MEDCOM received a formal briefing from the Office of the Surgeon General on the Medical Department’s response to the crisis. Its officers learned that the main response was being run from Washington and that it involved little coordination with MEDCOM staff in San Antonio. They also learned that they were to focus on future operations and try to work on issues that were not the focus of the Medical Department in Washington.²¹

Taking the lead in planning for the future was a member of Colonel Gerber’s staff, Dr Alan Compton, chief of the Plans Division in the Health Care Operations directorate at Fort Sam Houston. Dr Compton had the primary planners for any type of contingency efforts on his team: Colonel Tim Goran, senior resident training chief, as well as officials from preventive medicine, health services, policies, personnel, and logistics. The group monitored, adjusted, and built special medical augmentation response teams from various regional commands in preparation for augmenting the NARMC units, should the need arise.²⁵

The Plans Division also examined MEDCOM’s role in the mobilization process. Mobilization specialists such as Todd Bessette and Joseph Collins identified the Medical Department’s units and attempted to foresee what elements might be called up, which installations might be used, and where additional personnel would be needed. About a week after the attack, they designated the reserve components required to augment their office and other MEDCOM sites. They also briefed senior staff about medical training plans and requirements for the Southwest Asia theater that the Plans Division had recently developed. Because some staff had never read the plans, it took a while to familiarize people with their roles and in particular the actions they should take during the emergency.^{26,27}

While shifting its main focus to responding to the Pentagon tragedy, MEDCOM also had to continue its regular peacetime operations, such as taking care of patients and fulfilling medical support requirements. To augment its operations staff, it drew people from the Fort Sam Houston garrison and from the Army Medical Department Center and School on post. Because few of these staff had worked in operations before, most had to be instructed in their new role.²⁴ A number had never been involved in crisis planning or a military contingency, and few had much of an idea about what their roles would be. Realizing that many on his staff knew little about “moving from health care into a wartime footing,”²⁸ Colonel Mitchell had to instruct them in what the process was, where they were going, and how they would get there. He and others in the group who were familiar with

crisis planning and the Federal Emergency Response Plan guided the remaining planners. Mitchell also brought into the planning cell Lieutenant Colonel Joanne McGovern, deputy chief of the Medical Operations Branch, Army Health Services, who was a senior medical planner by training. Mitchell had worked with her in Panama and knew she was one of the Army's best medical planners.^{21,24,28}

Although much was accomplished by MEDCOM's response team, most of the major players believed there were shortfalls in the planning process. Because no operations plan existed for this type of emergency, Colonel McGovern guided the Plans Division in writing one. The plan would take MEDCOM "from a peacetime situation to a crisis management mode," said Colonel Burney.²² One of the results of the effort was a warning order with guidance to medical units, which was submitted to the operations directorate at the Office of the Surgeon General and ultimately emerged as a regulation on emergency medical planning.^{22,26,29} Colonel Eric Daxon, director of the Proponency Office for Preventive Medicine at MEDCOM, believed that if the regulation had been in place at the time of the attack, medical emergency management planners would have been "in a much better . . . position to respond to this [crisis]."²¹

Besides planning problems, MEDCOM's participants believed there were also weaknesses in communication from higher to lower levels during the emergency. "The cloud of war," said Colonel Burney, "the confusion . . . in a crisis type situation" made it difficult to distinguish between the truth and non-truth and to deal with rumors. Also, the lack of direction or clear guidance from higher up made him unsure what role his team would play in the response. He believed that the Medical Department needed to develop clearer guidance on the DoD's involvement in responding to terrorist attacks on US soil.²²

MEDCOM also had no way of obtaining intelligence that would help it provide guidance to subordinate organizations. Its main source for this kind of information was the Armed Forces Medical Intelligence Center, but MEDCOM did not have the ability to assess intelligence situation summaries; there was no G-2 (intelligence) function at the command to do intelligence analysis. Colonel Burney believed that subordinate commands would consider the two most important shortfalls of the Medical Department's response to the emergency to be the lack of intelligence information at the major commands, and the subsequent inability of these commands to provide guidance to the subordinate organizations. An instructor of the Officers Advanced Course at the Army Medical Department Center and School, Major Lewis Barger, whose primary duty during the crisis was to prepare a force protection newsletter, added that no one was identifying what actions to take as a result of the medical information being received.^{22,30}

Additional problems arose at MEDCOM headquarters in San Antonio. Colonel Daxon thought the San Antonio staff failed to react smoothly during the crisis, showing confusion and a lack of skills. The staff had done neither a table-top exercise running through an operation like the Pentagon disaster, nor a mobilization exercise. During the crisis, they had primarily concentrated on continuity of Tricare. Senior leadership stayed in the national capital region, where they were

focused at Department of the Army level and up, and not on the San Antonio office and what it should be doing in an emergency.²¹

Notwithstanding these shortfalls, MEDCOM's officers believed that the focus of Colonel Gerber and General Peake on readiness had placed the Medical Department in the best position one could "hope for" to respond on 9/11.²³ After 9/11, the organization no longer concentrated only on Tricare and beneficiary care, but also on crisis action planning. The issues of homeland security, deployments to other parts of the world, preventive medicine, and biochemical scenarios took on increased importance. The one pitfall that worried Colonel Daxon was whether MEDCOM could still provide continuity of care with all the new missions it was receiving.^{21,28,31,32}

The Center and School at Fort Sam Houston also helped ensure blood supplies by calling blood banks to verify inventories. As executive agent for the armed services blood program, the Army Medical Department coordinated delivery of blood to New York City and to the Navy hospital ship USNS *Comfort* early in the response. It also provided blood products, samples, and tissue and test kits to civilian hospitals upon request. Large inventories were available at the Armed Services Whole Blood Processing Laboratories in New Jersey and California.^{24,33(p1)}

RECOVERY OPERATIONS

As the recovery process at the Pentagon got underway on the morning of 9/11, a team of Navy dentists from the Pentagon dental clinic set up a temporary morgue on the tip of the northwest side of the Pentagon grassy area. They ordered about 500 body bags (not knowing how many they would need) from WRAMC and the National Naval Medical Center. The bags arrived with other supplies between 1100 and 1130. During the afternoon, more body bags were ordered, and refrigerated trucks arrived from WRAMC and local supermarkets. Master Sergeant Jack Tilly, who was still assisting the medical responders, prepositioned litter teams to carry victims to the morgue tent. Because no fences or screens were available to hide the facility and prevent the media from filming victims, Arlington County police moved it to the center courtyard at about 1700. The mortuary received no human remains on 9/11, however, since none of the casualties rescued that day died before evacuation from the Pentagon. In the evening, soldiers from the 3d Infantry Regiment (the Old Guard), relieved the Navy dentists, who went home after a long day. The next morning, Federal Bureau of Investigation (FBI) Special Agent Tara Bloesch ordered the morgue moved to the loading dock area near the Mall entrance. Graves Registration and Mortuary Affairs personnel from the 54th Quartermaster Company, Fort Lee, Virginia, established operations at the crash site at 1730 that afternoon.^{34-36,37(pA-47)}

The on-site agencies engaged in the recovery operations were many. The Federal Emergency Management Agency (FEMA), responsible for responding to national disasters, deployed urban search and rescue teams from Fairfax County and Virginia Beach, Virginia; Montgomery County, Maryland; Tennessee; a replace-

ment team from New Mexico; and two Department of Health and Human Services national medical response team task forces. Also at the scene were Arlington County firefighters, the FBI, the Army Criminal Investigative Command, the Air Force Office of Special Investigations, the Naval Criminal Investigative Service, combat engineers, graves registration and mortuary affairs personnel, military chaplains, military physicians, the technical rescue team from Fort Belvoir, and soldiers from the Old Guard.^{37(A-22),38(12-16)}

On 9/11, Lieutenant Colonel Patricia Horoho, Dr James Vafier, and Master Sergeant Noel Sepulveda coordinated with forensic specialists from the urban search and rescue teams, FEMA, and the FBI for directions on how to retrieve remains from the Pentagon. It had been decided during the afternoon that once the all-clear was given for people to enter the building, FEMA and FBI teams would go in. Because they had extensive experience in crime scene mortuary affairs, FBI staff would photograph the victims in place, and then the teams would bring them out, tag them, and send them to the morgue. There, a marine, two Army physicians, and FBI forensics experts would start the identification process and prepare the body for shipment to the Air Force base at Dover, Delaware, for final identification.³⁹

Attempts at coordination appeared successful, but confusion resulted when agencies initially were unsure who had jurisdiction over where the medico-legal investigation should occur. There were differences of opinion within the Pentagon itself, but all personnel knew they had to consider the requirements of the FBI, who had primary jurisdiction over the crime scene. For a short while, on-site agencies looked to Virginia's state medical examiner for direction. On September 12, DoD officials, most notably from the Office of the Armed Forces Medical Examiner (OAFME), responsible for forensic and mortuary activities, and the FBI, which was collecting evidence, met with Virginia's chief medical examiner, Dr Marcella Fierro, who also headed forensic and mortuary activities within the state, to discuss the situation. The agencies declined Fierro's offer of laboratory and mortuary assistance in the recovery effort and decided to use DoD facilities.^{37(pA-47),40,41}

Because the Pentagon was located on federal ground, decisions concerning the ultimate disposition of remains rested with the DoD and its executive agent for mortuary affairs (the Army). As a result, plans for the movement of remains were coordinated between the FBI, the Army's Mortuary Affairs team, and the DoD's logistics directorate (J-4). J-4 was to notify the Army Transportation Command and the Air Force of the intent to move remains through Andrews Air Force Base to Dover Air Force Base.^{41(p1),42}

The Old Guard, headquartered at Fort Myer, played a vigorous and important role in the response. The oldest continuously serving unit in the US Army, the brigade of eight large companies performed a largely ceremonial role in Washington, best characterized by their mission to serve at Army burials in Arlington Cemetery and as honor guards at the Tomb of the Unknowns, but the unit was a fully trained fighting force nonetheless. On the afternoon of 9/11, Old Guard soldiers went into action, dispatching four ambulances to the Pentagon, a rescue

squad, and Individual Ready Company C, which formed litter teams to remove bodies from the building.⁴³

Ultimately, the entire regiment was involved in the response. Old Guard soldiers served as guards inside the Pentagon, set up tents, unloaded supplies, cleared debris from outside the building and removed human remains from within. The latter task consisted of uncovering rubble, searching for body parts, notifying the FBI of any evidence that turned up, helping the FBI tag bodies and seal them in pouches, and carrying human remains in body bags from the crash site to the mortuary affairs areas. Those tasks required almost the entire regiment to work at the Pentagon in shifts of 12 hours each, one during the day and one at night. Companies A, B, C, D, and E rotated in the building. HHC Company, a headquarters and support company, supported the Army engineers, whose task was to maintain the safety of the damaged area so that recovery people could work there. The HHC company also included medical support personnel. The FDC company, the professional musicians of the Fife and Drum Corps, made security badges for response participants.⁴³⁻⁴⁶

Body removal details lasted anywhere from 15 minutes to 4 hours. Ninety-five percent of the soldiers involved had never before seen a dead body, and they suffered anxiety about the task. No soldier was ordered to go into the building if he or she didn't want to, but most decided to participate in the mission. As Army engineers and construction workers shored up the collapsed section, the infantry, working with firefighters and search and rescue teams, searched for victims and sifted through debris. To protect themselves from hazardous material, they wore white Tyvek (DuPont, Wilmington, DE) suits, air filter systems, hard hats, and rubber boots. They also had on triple gloves—first a surgical glove, then a working glove, and finally a plastic glove—all of them taped and sealed to protect the hands. The heavy smell of burnt furniture, plastic, and death lingered in the air. Fires flared in hot spots, especially in the space between the roof's slate shingles and the structure's underlying wooden frame. Meanwhile, two-thirds of the Pentagon was able to operate in a normal manner due to the building's reinforced concrete construction.⁴⁴⁻⁴⁶

The HHC company's medical members had taken the Emergency Medical Technician Course, had trained in cardiac pulmonary response, and attended the Bravo School, an advanced course for medical personnel. The company contained a rescue squad with qualified paramedics who helped with evacuation before their mission changed to supporting the recovery operation, setting up a medical tent and a forward aid station that remained at the Pentagon for about 3 weeks. Some Old Guard soldiers suffered from dehydration, but there were no serious injuries. An Old Guard staff sergeant persuaded a private company to donate specialized ear plugs and biohazard gear such as face masks to supplement items supplied by the Army. By the end of the second week, a decontamination tent was available for showers.^{43,47}

Troops carried body bags from the building and loaded them on 20-foot refrigerated vans parked near the Pentagon helipad for transport to the remains delivery facility at the loading dock area at the southwest corner of the Mall entrance.

There, FBI personnel photographed and tagged bodies or body parts. The remains then went to a temporary helipad located opposite the Mall entrance, where they waited for transport by CH-47 Chinook helicopter to Dover Air Force Base, a flight of approximately 40 minutes. After a few days, because of the public visibility of the off-loading and loading at the helipad, human remains were moved by van convoy to Fort Belvoir, and flown to Dover from there. At Dover, the remains were off-loaded individually into commercial hearses and transported to a refrigerated van to await autopsy. Once the autopsy was completed, the remains went into long-term storage to await final disposition and return to next of kin.⁴⁵

Because of concern about the mental health of the soldiers handling the remains, mental health providers from WRAMC and DeWitt Army Hospital conducted stress debriefings at the Pentagon. They counseled not only the young Old Guard soldiers but also members of the 54th Quartermaster Company from Fort Lee, who loaded victims onto refrigerated trucks at the Pentagon and accompanied them to Dover. Members of the mental health team from Fort Belvoir, where the Fort Lee Mortuary Affairs unit was staying while working at the Pentagon, were mindful of the effects that the tragedy in general as well as smells of the remains would have on the soldiers and the flight crews accompanying the bodies to Delaware. They prepared 5-by-7-inch note cards with brief bullets describing signs of stress under recovery operation conditions. Those cards went to spouses, families of soldiers, the soldiers themselves, and their companies to help them decide if counseling was necessary.^{43,48}

Firefighters and other rescue workers praised the young soldiers who removed victims' remains from the Pentagon. The *Arlington County After-Action Report on the Response to the September 11 Terrorist Attack on the Pentagon* states:

Fire and rescue personnel from [Arlington County Fire Department] and elsewhere drew constant inspiration from the actions of the young soldiers of Fort Myer's Old Guard, the U.S. Army 3rd Infantry Regiment. In every debriefing, someone expressed admiration for their discipline, teamwork, and willingness to tackle the most difficult, laborious, and onerous tasks. [Arlington County Fire Department] firefighters retain lasting images . . . of lines of soldiers passing debris from person to person, slowly but steadily removing tons of rubble from the Pentagon; and the image that will never fade, of soldiers under direction of the FBI reverently removing from the rubble the bodies and body parts of fallen victims.^{37(pA-51)}

The recovery operation was first a search-and-rescue effort, then a crime investigation, and finally a clean-up endeavor. From a command-and-control standpoint, both official and unofficial coordination took place. The FBI, FEMA, and Arlington County coordinated the recovery operation through the Military District of Washington, which sent guidance to the Old Guard. Because recovery workers tended to congregate near the various agency command posts, coordination of effort occurred through the interaction of staff at the captain, major, lieutenant colonel, and colonel levels, and across the various agencies. Old Guard soldiers, sergeants and privates, felt comfortable coordinating directly with search and rescue people and other agencies. Once the clean up was contracted out, the Old Guard was able to leave the Pentagon.⁴³

ARMED FORCES INSTITUTE OF PATHOLOGY/OFFICE OF THE ARMED FORCES MEDICAL EXAMINER

Responsibility for identifying victims' remains at Dover rested with OAFME, a department of the Armed Forces Institute of Pathology (AFIP), based at WRAMC. Operational team members represented every military service and included individual mobilization augmentees from the reserve forces and civilian professionals from outside the military services, including temporary duty personnel from the Smithsonian Institution and the US Army Central Identification Laboratory, Hawaii. Under the leadership of the AFIP's director, Navy Captain Glenn N Wagner, the forensic scientists began arriving at Dover on 13 September to conduct "a multidisciplinary operation" in concert with the FBI's criminal investigators. Captain Wagner's staff also identified the bodies from the crash of United Airlines Flight 93 in Pennsylvania at the request of the FBI.^{41(encl1),49}

More than a hundred specialists made up the Dover operations team. Among them were forensic pathologists, forensic odontologists (dental identification specialists), forensic anthropologists, forensic DNA specialists, forensic photographers, one epidemiologist, and regional and reserve medical examiners. The professional staff received logistics and administrative support from Andrews Air Force Base in Maryland and worked in conjunction with Dover-based Air Force morticians, whose ranks were augmented by reserve personnel. The operations team worked in continuing 12-hour shifts, 7 days a week, during the 2 months needed to complete the identification process.^{41(p2),50,51}

Military staff had several advantages over the civilian community in identifying human remains. The armed forces were leaders in the use of DNA for identification purposes, having on file more than 3.2 million blood stain cards for all active



Refrigeration trucks behind the old Dover mortuary, Dover Air Force Base, Delaware, 2001. During mass fatality events, additional cold storage was always brought in to help. Photograph: Armed Forces Institute of Pathology Public Affairs Office.

duty personnel. The Dover team had only to match the body tissue of victims with their cards to achieve accurate identifications. Finally, the AFIP's team members had multiple experiences in identifying victims of mass casualties, notably the 1978 mass suicide in Jonestown, Guyana; the 1985 crash of Arrow Air Flight 1285 in Gander, New Foundland, which claimed the lives of 248 troopers of the 101st Airborne Division; and the bombing of the USS *Cole*.^{18(p2),41,50}

The AFIP deployed equipment to Dover on 12 September, almost immediately after the decision had been made to use DoD facilities. Team members traveled to the airbase by personal vehicle on 13 September and were in place 3 hours before the first remains arrived. Active and reserve armed forces medical examiners and regional medical examiners took longer to deploy as a result of unclear tasking orders and the shutdown of commercial air travel that followed the attack.⁴⁰ At Dover, the Air Force opened up an extra bay in the existing mortuary at that time (the old mortuary) and set up additional mortician tables for autopsies.^{41(p2)}

The examiners at Dover employed three types of cadaver identification meth-



First processing station at the old Dover mortuary, where personal effects were inventoried, full photographs of all evidence taken, and the processing plan for remains established. The people in uniform are Dover Air Force Base support staff. The man in blue scrubs, Kevin Torske, a Navy oral pathologist, formerly of the Armed Forces Institute of Pathology staff, led the group. Photograph: Armed Forces Institute of Pathology Public Affairs Office.

ods: dental, fingerprint, and DNA. Tissue from remains classified by dental or fingerprint techniques provided a “DNA reference sample, which [after examination in the DNA laboratory] was then used to re-associate traumatically separated, and otherwise non-identifiable, body parts.” Because of the need to process over 20 victims a day for more than 20 consecutive days, the Air Force sent replacement teams, consisting of nine dentists, one computer specialist, and one administrative officer from Keesler Air Force Base in Mississippi. Army substitutes went on standby, but were never needed.^{40(pp7,8)}

Experts confirmed identifications by using premortem dental, medical, and DNA records when available. Whenever possible, those histories were obtained before bodies or body parts underwent medical, dental, and radiographic examination, and were present before the reassociation of body parts and the reporting of data. Because their dental and DNA records were on file, military personnel were identified more quickly than civilians.^{41(pp12,13)}



Forensic dentistry section of the old Dover mortuary. The dentist on the left is compiling postmortem dental records of unknown of remains that were examined at the time of autopsy. The dentist on the right is compiling antemortem records of individuals known to have been victims. These records are usually provided by civilian dentists or military dental clinics. Ultimately, the two sets of record summaries (antemortem and postmortem) will be compared for matches.

Photograph: Armed Forces Institute of Pathology Public Affairs Office.



Another depiction of the antemortem and postmortem dental records section.
 Photograph: Armed Forces Institute of Pathology Public Affairs Office.

Military casualty officers waited until 1800 on 13 September to release missing persons lists, which delayed the retrieval of dental records. The lists were faxed immediately after release to the military's Central Panorex (digital dental x-ray) Storage Facility in Monterey, California, which resulted in 58 identifications by 2210 on 13 September. The 59th identification occurred on 21 September, after the FBI sent its own list with a request for fingerprint records. Because of the grounding of commercial flights, military aircraft flew the dental radiographs from Travis Air Force Base, California, to Dover, arriving with their cargo at 2030 on 14 September. The FBI took responsibility for acquiring civilian dental records. The records of passengers on Flight 77 arrived in increments for several weeks.^{41(p8)}

Documentation was thorough at the Dover mortuary. The large number of body parts and the fragmentary nature of many of the victims' bodies complicated the assignment of autopsy numbers. In tracking data, OAFME initially used the FBI's numbering system for documenting body parts. The office recorded remains data, such as dental, medical, and DNA records information in a spreadsheet developed by an AFIP epidemiologist. Film was used for radiography and photography, which caused delays in processing, cataloging, and filing (the AFIP had only just begun to transition into digital imaging). Nevertheless, "post-mission analysis indicated these methods were remarkably accurate. Only minor correctable discrepancies turned up later in the operation."^{41(p3)}

Command and control worked as follows: AFIP's director, Captain Wagner,

was at Dover throughout most of the operation. He held daily morning meetings to share information, and assigned a lead medical examiner to each autopsy room. An anthropology team from the Smithsonian Institution, with experience in identifying remains that were not easily recognizable, assisted by a medical examiner, was in charge of triage (working on those bodies most easily identified first), and the Air Force Office of Special Investigations coordinated the movement of remains at Dover.⁴¹

The AFIP already had supplies prepositioned at Dover because of its frequent use of the morgue, but not enough to handle the large number of 9/11 victims. Increases in staff and volunteers depleted gloves, masks, shoe covers, and other disposable clothing protection. Much of these supplies were not available on the local economy, and they were also needed in New York City and Pennsylvania. To solve the problem, the Army Office of the Surgeon General (OTSG) provided the money to buy equipment locally, if available, or in bulk-order, despite the minimal delay in delivery. Throughout the mission, inventory control was a critical issue.^{41(p4),52}

Communication with outside agencies occurred “in-person and on-site.” A cellular phone and a pager were used for daily contact between OAFME, the AFIP, and team members. The medical examiner’s personnel had government-issued cell phones, but the phones worked outside the building only and weren’t very useful.⁵²



Three forensic scientists perform a radiographic examination of victims’ remains to help with identification.

Photograph: Armed Forces Institute of Pathology Public Affairs Office.



Autopsy suite in the old Dover mortuary. At left is Amanda Coute (an Armed Forces DNA Identification Laboratory analyst), signing for a DNA sample taken at autopsy, with Air Force forensic pathologist Steve Campman, on right.

Photograph: Armed Forces Institute of Pathology Public Affairs Office.

There were shortcomings in facilities and services at Dover as well. Offices, dining facilities, lodging, and transportation were marginal. Autopsy rooms were cramped, with poor lighting, minimal environmental control, and no pest control. Flies were a nuisance, compounded by the September heat. Billeting assignments were noisy and unclean, and some were located far from the base. This situation deprived team members of sleep and degraded job efficiency. Dressing, showering, and sanitary areas at the mortuary also were below standard.^{41(pp4-6)}

Data transmissions had shortcomings as well. There was no network connection between OAFME and the Dover mortuary until the OAFME moved to Rockville, Maryland, at the end of September (see below), which delayed data transmission and eliminated instant feedback. Information could be sent from Dover through the AFIP director's assistant to the offices of the Army and Air Force surgeons general. Multiple requests and dual reporting of the same information, however, became burdensome and "interfered with operations."^{41(p6)} As directed, each day the OTSG received a copy of the spreadsheet containing data on remains. Additionally, OAFME used the FBI tracking system to compile reports, but the



Interior of the old Dover mortuary autopsy suite; tables for autopsy examinations are on the left, and supply shelves to the right. US Air Force forensic pathologist Andy Baker is the tall man in green scrubs on the left. Penny Rodriguez, Dr Wagner's administrative assistant, is in the background. Photograph: Armed Forces Institute of Pathology Public Affairs Office.



Body bags on gurneys. Photograph: Armed Forces Institute of Pathology Public Affairs Office.

Dover mortuary used numbers in a format compatible only with its own computer system, resulting in extra work to compare the two sets of numbers and reconcile discrepancies. The use of a spreadsheet instead of an autopsy tracking and recording system complicated matters further. It required “extraordinary oversight and data entry resources,” as Captain Wagner put it, “to ensure accuracy and accountability.” The minor errors that continually occurred were a nuisance to all concerned.^{41(pp6,7)}

For future missions, the AFIP recommended acquiring an adequate data reporting system, including uniform “remains tracking, results tracking and reporting.” The system had to be compatible with medical examiners’ portable computers and “fully networked with Dover.” The numbering system for future missions had to be standardized.^{41(p7)}

The effort to identify remains at Dover lasted from 11 September to 16 November 2001. The medical examiners’ staff were on site at the Pentagon on 11 and 12 September; the operations team was at Dover from 13 September to 29 September, when it moved to more secure offices in Rockville, Maryland. In Rockville the team continued to collect, file, and report data, processing identification information in the same manner as at Dover. Its members communicated with the mortuary at Dover by e-mail, fax, and telephone. Occasionally, they made on-site visits to Dover to have death certificates signed and approved, and to clear up ambiguities in the data. For example, “DNA specimens were taken from commingled remains without first separating and renumbering the remains. Resolution of this situation required physical separation after identification at Dover.” This became a training issue for medical examiners and DNA technicians, the AFIP reported. Before sampling DNA, commingled physical remains had to be separated.^{41(pp12,13;encl1, encl2)}

During the Dover operation, the AFIP colocated a 24-hour emergency operations center with the mortuary at Dover in order to respond to numerous requests for information from higher headquarters and help coordinate activities. Medical and dental records from the various services were sent to the Dover mortuary through the center, and it was used to initiate tasks and issue a daily situation report until a reporting system was established. However, this facility also had weaknesses: the lines of communication to higher authority were uncertain, and numerous staff members requested the same information. Finally the AFIP proposed that requests for information from higher headquarters go through a central office in order to eliminate duplication.^{41(p10)}

The AFIP’s role in identifying victims attracted intense local, regional, national, and international media interest. With the approval and coordination of public affairs staff from DoD, the Army Surgeon General’s Office, and Dover Air Force Base, the AFIP’s Public Affairs Office kept the media informed and set up interviews. Operating on a 24-hour basis during the first 2 weeks of the operation, the office used cell phones and pagers to contact DoD offices and the media, and to set up interviews for the media with forensic medical specialists and DNA experts. To allow Captain Wagner, the Dover operations team leader, to focus on the identification of victims and their return to their families, the AFIP denied

requests for interviews with him. For the same reason, the DoD denied a proposed news conference.^{41(pp10,11)}

The FBI-numbered remains of Pentagon victims' bodies and body parts that the mortuary processed totaled 2,397, and 178 of 183 victims (not counting the individual who was evacuated and died later of wounds) and 5 terrorists were identified. Causes of death included 78 from blunt force injury; 35 from thermal injury; 42 from blunt force and thermal injury; 12 from conflagration; 5 from multiple injuries; and 1 from positional asphyxia. Families of the unidentified victims chose a mass burial with a memorial service at Arlington National Cemetery. Remains that were comingled with those of the terrorists were destroyed.^{41(encl1)}

SOMERSET, PENNSYLVANIA

In Somerset, Pennsylvania, the FBI was the lead agency in providing identification services for the victims of United Flight 93. The agency activated the Disaster Mortuary Operational Response Team, a division of the US Department of Health and Human Services, National Disaster Medical System, to provide assistance to local authorities in identifying victims. The team consisted of about 50 civilian and federal personnel mainly from the mid-Atlantic states, including AFIP staff. Paul Sledzik, a staff member of the AFIP's National Museum of Health and Medicine, served as one of the team's leaders, and Lenore Barbian, another museum staff member, served as a forensic anthropologist. The two had years of experience in studying skeletal remains and soft tissue specimens at the museum, a skill that was critical in the identification of 9/11 victims. Sledzik and Barbian were on site in Somerset from 13 to 25 September 2001. Because the group did not have access to the disaster response team's portable morgue, which had been sent to New York City, the National Disaster Medical System contracted with a private company for a portable morgue and a crew to support it. The FBI provided direction for the effort as well as fingerprint identification services. It also handled the press, and met with state and airline representatives.^{41(encl3)}

SUMMARY

On 9/11, the Army Medical Department's senior leaders successfully galvanized medical resources worldwide to respond to the attacks on the Pentagon and the twin towers and to prepare for future terrorist acts. They used video teleconferences to keep medical commanders informed throughout the crisis. As head of NARMC, General Timboe mobilized medical facilities and personnel in the national capital region and near New York City to help with the responses in those areas. Shortly after the attacks, WRAMC, DeWitt Army Community Hospital, and Rader Army Health Clinic sent ambulances and emergency medical personnel to the Pentagon crash site and established emergency operations centers to handle communications, assemble specialized medical teams, and track patients. Crisis management training and mass casualty exercises influenced the quick and

effective response.

With the major effort being conducted from the Washington area, MEDCOM's headquarters in San Antonio focused on future operations issues, reviewed the status and increased the readiness level of the command's special medical augmentation response team in case it was needed, designated reserve forces that could be called up, worked on plans for placing personnel and facilities on a wartime footing, and developed an operational plan on how to respond to another emergency such as 9/11. Crisis management training courses helped with those preparations. Despite the need for clearer guidance on how to respond to terrorist attacks on US soil, the lack of intelligence, the inability to analyze it, and the need for a deputy who spoke for the surgeon general and command as a whole, the MEDCOM office in San Antonio believed that the senior leaders' emphasis on readiness placed the Medical Department in a good position to respond to the crisis. After 9/11, MEDCOM concentrated not only on Tricare and beneficiary care but also on crisis planning.

Initial confusion resulted in inadequate coordination of the many elements engaged in the recovery operation until the Military District of Washington received exclusive federal jurisdiction over the ultimate disposition of remains. After this decision, the FBI, FEMA, and the Arlington County Fire Department coordinated activities through the Military District of Washington, which also provided guidance to military participants. Much informal coordination occurred through the interaction of people engaged in the effort. Soldiers of the Old Guard felt comfortable coordinating directly with the search and rescue teams of the various agencies involved in the effort. Military recovery workers suffered no serious injuries, although Army medical trauma specialists were on hand in case they were needed. Military chaplains and mental health teams offered counseling.

OAFME, responsible for identifying human remains, assembled an operations team that represented all military services and included civilian scientists and forensic specialists. Working with morticians at Dover Air Force Base and regional medical examiners, its personnel used dental, fingerprint, and DNA methods of identification. Because of the fragmentary nature of the bodies and body parts, documentation had to be thorough. Minor inconsistencies resulted from the absence of uniform systems for tracking remains, results, and reporting. Nevertheless, 178 of 183 Pentagon victims (not including the one person who died later of wounds) plus 5 terrorists were successfully identified. The AFIP also assisted the FBI in identifying victims of United Flight 93 in Somerset, Pennsylvania.

References

Unless otherwise stated, transcripts of interviews and copies of documents used in this chapter can be found at the Office of the Surgeon General Medical History Office, Fort Sam Houston, Texas.

1. Timboe H (Major General, Commander, North Atlantic Regional Medical Command). Interview by Cox DR; Walter Reed Army Medical Center, Washington, DC; 5 March 2002.
2. North Atlantic Regional Medical Command historical summary. Unpublished document.
3. Compton A (Chief of Plans, US Army Medical Command). Interview by Glisson R; Fort Sam Houston, Texas; 5 October 2001.
4. Condon-Rall M. *Disaster on Green Ramp: the Army's Response*. Washington, DC: US Army Center of Military History; 1996.
5. McGill D (Captain, Deputy Director of Military Operations and Training, Walter Reed Army Medical Command). Interview by Cox DR; Walter Reed Army Medical Center, Washington, DC; 5 March 2002.
6. Leathers TC (NCOIC of outpatient medical records, Walter Reed Army Medical Center. *Events Post the "Terrorist Attack."* Memorandum for Concerned Personnel (MCHL-MRAD-OPR), 19 January 2002.
7. Dunn M (Colonel, Commander, Walter Reed Health Care System). Interview by Cox DR; Washington, DC; 21 February 2002.
8. Bolton L (Colonel, Brigade Commander, Walter Reed Army Medical Center). Interview by Cox DR; Washington, DC; 13 March 2002.
9. Northeast region assures highest care for military, civilian personnel injured in September 11 attacks. *The Pulse Tricare Northeast*. 2001;1(3); 1.
10. E-mail, Colonel Seven L Cardenas to Mary Ellen Condon-Rall, 8 November 2006.
11. Lucci E (Lieutenant Colonel, Chief, Emergency Medicine, Walter Reed Army Medical Center). Interview by Cox DR; Washington, DC; 22 February 2002.
12. Sanchez NE (NCOIC of patient accountability, Walter Reed Army Medical Center). *Events Post the "Terrorist Attack."* Memorandum for Concerned Personnel, 16 January 2002.
13. E-mail, Captain Kristal Melvin, Army Nurse Corps, to Major Jennifer L Petersen, Army Nurse Corps; subject: "Deployment to the Alternate Joint Communications Center in Support of the DoD Continuity of Operations Plan (COOP) and Provided Medical Support for Relocated Pentagon Personnel," 10 September 2002

14. Malone E (Colonel, Commander, DeWitt Army Community Hospital). Interview by Cox DR, Fort Belvoir, VA; 27 October 2001.
15. Roser JF Jr (Colonel, Commander, Rader Army Health Clinic). Interview by Cox DR; Fort Myer, VA; 19 October 2001.
16. Roser JF (Commander, Rader Army Health Clinic). *After Action Report, Pentagon Aircraft Crash Response*. Washington, DC: US Department of the Army. Memorandum for Record, 28 September 2001.
17. Malone EB. *Nomination of Medical Detachment, Andrew Rader US Army Health Clinic, Fort Myer, VA, for the Army Superior Unit Award*. Washington, DC: US Department of the Army. Memorandum to Walter Reed Army Medical Center Personnel Command, 3 October 2001.
18. The medics go to war. *US Medicine, An Independent Newspaper for Physicians*. Oct 2001;37(10): 2,13.
19. Wilson P (Lieutenant Colonel, Aviation Staff Officer, Operation Noble Eagle, Pentagon). Interview by Cox DR; Arlington, VA; 27 September 2001.
20. Office of the Surgeon General, Health Care Operations, Daily Staff Journal or Duty Officer's Log, 11 September 2001.
21. Daxon E (Colonel, Director of the Proponency Office for Preventive Medicine, San Antonio, TX). Interview by Glisson R; San Antonio, TX; 5 October 2001.
22. Burney B (Colonel, Chief, Operations Division, Directorate/Health Care Operations, San Antonio, TX). Interview by Glisson R; San Antonio, TX; 5 October 2001.
23. Opio R (Colonel [retired], US Army, former Management Analyst, Operations Division Directorate, San Antonio, TX) Interview by Glisson R; San Antonio, TX; 3 October 2001.
24. Bukartek J (Major, Deputy Chief, Current Operations, Fort Sam Houston). Interview by Glisson R; Fort Sam Houston, TX; 2 October 2001.
25. Compton A (Chief of Plans, US Army Medical Command). Interview by Glisson R; Fort Sam Houston, TX; 5 October 2001.
26. Bessette T (Mobilization Planner, Plans Division, US Army Medical Command). Interview by Glisson R; Fort Sam Houston, TX; 5 October 2001.
27. Collins J (Mobilization Planner, Plans Division, US Army Medical Command). Interview by Glisson R; Fort Sam Houston, TX; 5 October 2001.
28. Mitchell G (Colonel, Chief, Clinical Services Division for Health Policy and Services, US Army Medical Command, and Chief of Consultants for The Surgeon General). Interview by Glisson R; Fort Sam Houston, TX; 4 October 2001.
29. US Department of the Army. *Army Emergency Management Program*. Washington, DC: DA; 2008. Army Regulation 525-27.
30. Barger L (Major, Instructor, Advance Course, US Army Medical Department Center and School). Interview by Glisson R; Fort Sam Houston, TX; 5 October 2001.
31. Lett D (Colonel, Chief, Plans Branch, Plans Division, US Army Medical Command Headquarters). Interview by Glisson R; San Antonio, TX; 5 October 2001.
32. Gordon T (Colonel, Chief, Readiness and Training, Directorate/Health Care Operations, US Army Medical Command Headquarters). Interview by Glisson R; San Antonio, TX; 3 October 2001.
33. Terror attacks meet fast response from AMEDD." *Mercury*. Oct 2001;29(1):1.
34. Horoho P (Lieutenant Colonel, Assistant Deputy, Personnel and Health Management Policy, Office of the Assistant Secretary of the Army for Manpower and Reserve Affairs); Malcolm N (Director of Special Operations, Special Readiness Services International Corporation). Interview by Condon-Rall ME; the Pentagon, Arlington, VA; 9 May 2003.

35. Durm WB (Captain, Commander, Triservice Dental Clinic, the Pentagon). Interview by Cox DR; Arlington, VA; 12 October 2001.

36. *US Terrorist Attack Update to TSG*. Daily briefing to the US Army Surgeon General on the medical response to 9/11. 121700 Sep01 D+1.

37. Titan Systems Corporation. *Arlington County After-Action Report on the Response to the September 11 Terrorist Attack on the Pentagon*. Arlington, VA: Titan Systems Corporation; 2002: A-22, A-47, A-51.

38. Cozza SJ, Huleatt WJ, James LC. Walter Reed Army Medical Center's mental health response to the Pentagon attack. *Mil Med*. 2002;167:12-16.

39. Horoho P (Colonel, Assistant Deputy, Personnel and Health Management Policy, Office of the Assistant Secretary of the Army for Manpower and Reserve Affairs). Interview by Cox DR; Arlington, VA; 27 September 2001.

40. E-mail, Glenn Wagner, former Director, Armed Forces Institute of Pathology, to Mary Ellen Condon-Rall, 3 January 2006.

41. Wagner GN. *AFIP After Action Report*. Washington, DC: US Department of the Navy; 2002: 1-13.

42. *Update to TSG*. Daily briefing to the US Army Surgeon General on the medical response to 9/11. 130500SEP01 D+2.

43. Laufenberg J (Colonel, Commander, 3d Infantry). Interview by Hirrel L (Historian, Center of Military History); Fort Myer, VA; 16 October 2001. Transcript: US Army Center for Military History, Washington, DC.

44. Gilmore GJ. Fire, rescue workers continue Pentagon labors. *DefenseLink News*. 14 September 2001.

45. Hillyard S (Operations Specialist, Operations Division, US Army Medical Command). Interview by Glisson R; Fort Sam Houston, TX; 3 October 2001.

46. Fort Belvoir/Fort Myer Mental Health Team. Critical incident at the Pentagon. Briefing slides presented at: Office of the Surgeon General, US Army, Falls Church, VA.

47. Keener A (Sergeant First Class, Headquarters Company, 3d US Infantry). Interview by Shellenberger (Historian, US Army Center of Military History); Fort Myer, VA; 10 October 2001.

48. Mateczun J (Rear Admiral, Deputy Director for Medical Readiness, Joint Staff). Interview by Herman JK (Historian, Bureau of Medicine and Surgery); the Pentagon, Arlington, VA; 9 October 2001. Transcript: the History Office of the Bureau of Medicine and Surgery in Washington, DC.

49. Operations Division Files, Office of the Surgeon General, Office of Medical History.

50. DoD experts identify Pentagon victim remains [news release]. Washington, DC: US Army Medical Department, 17 September 2001.

51. Carlton PK Jr (Major General, Air Force Surgeon General). Interview by Perry J (Air Force History Support Office), Nanney JS (Office of the Air Force Surgeon General); Washington, DC; 4 December 2001. Transcript: Air Force History Support Office, Washington, DC.

52. E-mail, Glenn Wagner, former Director, Armed Forces Institute of Pathology, to Mary Ellen Condon-Rall, 5 January 2006.