

## *Chapter Seventeen*

# The Army and the Army Medical Department in Operation Desert Shield/Operation Desert Storm

**T**he last decade of the 20th century was an active time operationally for the Army, the Army Medical Department (AMEDD), and the Army Nurse Corps as the call came more and more frequently to support a variety of strategic deployments. As the optempo (operations tempo) increased, so too did the perstempo or personnel tempo, the length of time soldiers were deployed to locations away from their garrison or permanent base.<sup>1</sup> Operations in the 1990s included humanitarian, peacekeeping, nation-building, and combat missions. The campaign of Operation Desert Shield/Operation Desert Storm (ODS), a combat mission, opened the decade on an enormous scale.

By the summer of 1990, Saddam Hussein, the president of Iraq, had driven his country into dire financial straits as a consequence of an eight-year war with neighboring Iran. To replenish his coffers, Hussein first attempted to persuade his Organization of Petroleum Exporting Countries partners to simultaneously raise the price and decrease the production of oil. When that tactic failed, he accused Kuwait, another neighboring state on the Persian Gulf, of stealing Iraqi oil. Kuwait refused to submit to Hussein's demands for compensation, and as a result he ordered the Iraqi army to march into and annex the smaller country. The invasion set off alarms in Saudi Arabia, another neighboring state, who feared that Hussein would likewise cross their borders. Consequently, King Fahad of Saudi Arabia asked for military assistance from the United States.<sup>2</sup>

U.S. military leaders designated the first several months, or the buildup of forces for the Persian Gulf War I, as Operation Desert Shield and the subsequent combat phase as Operation Desert Storm.<sup>3</sup> The precombat phase, Operation Desert Shield, referred to all military operations from the initial U.S. response on 6 August 1990 until fighting began on 17 January 1991. The period of combat, Operation Desert Storm, spanned 42 days from 17 January 1991 to 28 February 1991, at which time President George H.W. Bush ordered a provisional ending of hostilities. The temporary truce became a lasting cease-fire on 3 April 1991 with

the adoption of the United Nations Security Council Resolution 687. Thereafter, allied forces withdrew from Iraq over several months.<sup>4</sup>

As commander in chief, President Bush had articulated four national security objectives that guided the military campaign: the need to defend American lives, resist the Iraqi offensive, remove Iraqi invaders from Kuwait, and restore that country's legitimate government. These goals remained unchanged during the operations.<sup>5</sup>

The U.S. military functioned with an organization of unified commands, each of which had no permanently assigned troops of its own but was accountable for monitoring the security of large geographical areas that spanned the globe.<sup>6</sup> One of these, the U.S. Central Command (CENTCOM), was responsible for northeast Africa and southwest Asia (SWA) and their adjacent bodies of water. Thus, CENTCOM and its commander, General H. Norman Schwarzkopf, led the U.S. forces during ODS. The Army component of CENTCOM was Army Central (ARCENT), and it drew its troops from Forces Command, which in turn garnered support and assets from other major commands, including Health Services Command (HSC).<sup>7</sup>

The AMEDD mobilization in support of ODS was enormous, complex, and challenging. At that time, two organizational evolutions were occurring—one related to a major equipment conversion and the other related to significant doctrinal transition. The AMEDD was replacing its Vietnam-era Mobile Unit, Surgical, Transportable (MUST) hospital configuration with updated Deployable Medical System (DEPMEDS) equipment. Many of the units deploying to ODS had the MUST equipment. All participants soon discovered that extreme desert conditions severely challenged the efficient operation of those units that went to war with the MUST setup, and this forced an accelerated substitution of DEPMEDS in many of the AMEDD's treatment units. The surgeon general acknowledged that this hurried changeover was a "monumental task."<sup>8</sup>

The 28th Combat Support Hospital (CSH) was the first hospital of the 44th Medical Brigade to provide patient care in the Gulf. It originally used MUST equipment, but its MUST utility packages soon malfunctioned in the extreme heat and blowing sand and abruptly ceased operation. Unexpected power failures plunged operating rooms into darkness and sweltering heat. These and other deficiencies soon became public knowledge, the subject of stateside media attention, and adversely affected morale. Such unfortunate incidents, however, served to spur the implementation of the DEPMEDS modernization program.<sup>9</sup>

The AMEDD was also transitioning to a new doctrine, Medical Force 2000. During ODS, the AMEDD launched two major facets of Medical Force 2000: (1) far forward surgical care and (2) enhanced psychiatric support. It used Forward Surgical Teams (FSTs), highly mobile subunits of the Mobile Army Surgical Hospital (MASH). The FSTs operated separately from their units of origin by moving with the combat troops to provide far forward surgical treatment. The FST usually had a staff of 10 officers and 10 enlisted soldiers. Among the staff of 20 were two nurse anesthetists, an operating room nurse, one medical-surgical nurse, one critical care nurse, three trauma surgeons, an orthopedic surgeon, one field medical

officer (Medical Service Corps), four emergency medical technicians, three surgical technologists, and three practical nurses.<sup>10</sup> It also employed Combat Stress Control teams staffed by psychiatric nurses, psychiatrists, psychologists, social workers, chaplains, and Judge Advocate General officers to treat and expeditiously return soldiers with combat stress to the battlefield.<sup>11</sup> A measure of the efficacy of the Combat Stress Control teams was the modest number of psychiatric patients evacuated from the theater, a mere 2.7 per 1,000 patients.<sup>12</sup> The actual number of psychiatric patients evacuated to the U.S. Army Europe for treatment totaled 467, with 313 of those being Army soldiers.<sup>13</sup>

Another long-standing doctrinal concept, echelons of care, was again tested during ODS and proved to be a reliable system, although the need for some minor modifications surfaced.<sup>14</sup> The first of five levels of care, the most approximate to the line of fire, was the attention provided by the combat lifesaver, a fellow line soldier given 30 additional hours of medical training before the war began. The combat lifesaver could apply pressure dressings and initiate field resuscitation for his wounded compatriots. On the same echelon of care, the unit level, the medical aid man provided limited airway management, cardiopulmonary resuscitation, and arranged for evacuation of the casualty.

The second echelon was the battalion aid station usually staffed by a general medical officer or physician assistant. These medical staff members provided care for minor problems or combat stress issues. The clearing station, an element of the forward support brigade, was the third echelon of care. There, several assigned physicians could treat patients and maintain them for about three days in the clearing station's 40 beds. Often at this same third echelon, the FST would provide casualties with their first opportunity for surgical intervention.

The corps hospitals—the MASH with 60 beds, the CSH with 200 beds, and the Evacuation Hospital (EVAC) with 400 beds—represented the fourth echelon. It soon became evident in the Persian Gulf War that these large facilities with numerous beds were unnecessary. However, the acuity of the fewer-than-expected casualties dictated a greater number of staff for a lesser number of beds.

The final echelon of care during ODS was found in the rear area hospitals. In these sizable facilities, often 400 beds or greater, seriously ill or wounded casualties received treatment, were stabilized, and frequently were evacuated out of the theater of operations for more definitive care.

Another crucial challenge that the AMEDD faced before going to war involved the statutory requirement that personnel mobilizing for overseas combat undergo 12 weeks of field preparation and military training. Typically, the Officer Basic Course (OBC) fulfilled this requirement. However, in 1990, thousands of U.S. Army Reserve (USAR) and Army National Guard (ARNG) officers in the AMEDD, primarily nurses, physicians, and dentists, but also veterinarians, Medical Service Corps (MSC), and Army Medical Specialist Corps officers, had not previously attended OBC and thus were considered nondeployable. The Military Science Division chief at the Academy of Health Sciences, Colonel T.R. Byrne, MSC, directed his staff to expeditiously design a two-week course that—when

combined with the USAR and ARNG soldiers' prior professional education and background (which gave constructive credit for 10 additional weeks)—would satisfy the requirement. Commonly referred to as the “Shake 'n Bake” OBC, the course had many iterations that met in Blesse Auditorium at the Academy of Health Sciences and on a training area near Salido Creek at Fort Sam Houston, Texas.

Approximately 2,000 AMEDD USAR and ARNG personnel, who were billeted in off-post hotels on the 410 Loop, took part in the program from Labor Day 1990 until February 1991. Byrne expected to have a number of conscientious objectors participating in the program. However, there were none. What did materialize was a group of disgruntled Medical Corps officers, who were irritated because they had been pulled out of their civilian graduate medical education training to mobilize, and another peeved faction composed of various AMEDD branches that had been counting for years on their lack of OBC to keep them from combat. There also were numerous Army nurses and MSC officers who had been trying to get seats in the class for years and were thrilled to have the opportunity to attend. Among the total number of participants were 902 USAR and ARNG Army nurses.

The course curriculum focused on a variety of doctrinal, leadership, and operational subjects and skills. Topics included the military and the AMEDD, the Army division, staff development of subordinates, combat stress, movement under direct and indirect fire, weapons and radio familiarization, Nuclear, Biological, and Chemical protection, the modern medical system, medical regulating and patient evacuation, health care documentation, and the conduct of a Mass Casualty situation. Numerous course participants—many of whom were university faculty from the entire spectrum of academic institutions nationwide—were amazed at the quality of the instruction provided mostly by resident MSC faculty and some MSC officers who then were attending the Officer Advanced Course. Some consideration was given to reinstating the “Shake 'n Bake” OBC during the opening days of Operation Iraqi Freedom; however, that plan was not implemented.<sup>15</sup>

ODS was a massive endeavor that involved participation by the total force—the Active Army, the USAR, the ARNG, civil service personnel, and the retired population.<sup>16</sup> In a mobilization whose speed was unprecedented, the AMEDD deployed approximately 25,000 USAR and ARNG personnel in three months, including 12,000 to SWA, 3,000 to Europe, and 10,000 more within the continental United States (CONUS). The reserve components were approximately 75 percent of the AMEDD's total assets. The AMEDD officer corps, which included all components on active duty, counted approximately 21,800 soldiers worldwide. Of those, 8,500 were Army nurses, 7,300 were physicians, and 6,000 were MSC officers. Several thousand AMEDD retiree and reservist volunteers also responded to an early call to augment the force.<sup>17</sup>

One such retiree was Brigadier General (Ret.) Hazel W. Johnson-Brown, the 18th chief of the Army Nurse Corps. Although Johnson-Brown had not worked in an operating room for 24 years, she volunteered and served as a circulating nurse in the operating rooms at Fort Belvoir, Virginia. She acknowledged that work-

ing in the operating room was “just second nature” to her and disclosed that she “was doing this a long time in the Army Nurse Corps, and most of the procedures haven’t changed.”<sup>18</sup> Johnson-Brown’s volunteerism was but one expression of the patriotic support for the war that swept across the nation.

Of all three services, the Army’s medical presence in ODS was the largest. The Air Force Medical Service sent 4,868 officers and enlisted airmen to SWA and staffed fifteen 50-bed air transportable hospitals, 33 air transportable clinics, and a 250-bed contingency hospital. A total of 174 Air Force Reserve nurses augmented the 162 active duty Air Force Nurse Corps nurses who served in the Gulf during ODS. The Navy Medical Department deployed 2,277 officers and 8,943 enlisted sailors, who staffed two hospital ships, three fleet hospitals, three host nation facilities, and two Marine Expeditionary Brigades afloat.<sup>19</sup> The Navy Nurse Corps deployed approximately 250 nurses to staff their hospital ships, the *Comfort* and the *Mercy*, in the Persian Gulf. They also assigned 21 nurses to their amphibious assault ships, the *Guam* and *Iwo Jima*. A total of 31 nurses deployed in support of the 1st Marine Amphibious Brigade and the 1st and 2nd Force Service Support Groups. Finally, a contingent of 152 Navy nurse reservists staffed three fleet hospitals erected in the theater.<sup>20</sup>

ODS was not only a joint operation involving the U.S. Army, Air Force, and Navy but also it was a coalition undertaking that included a vast array of allied forces. Forty countries participated in ODS, including forces from the Americas, the Antipodes, the Pacific, the Far East, the Middle East, Europe, Scandinavia, and Africa.<sup>21</sup>

Projected casualty figures for ODS dictated the need for 18,500 beds in the SWA theater. It also called for a sizable expansion in AMEDD bed resources in other locations. Ultimately, 5,500 hospital beds were available in Europe and provisions were made for more than 10,000 beds in CONUS. In addition, the Veterans Administration provided 25,000 beds for casualties, and the Department of Defense Health Resources Sharing and Emergency Operations Act was prepared for implementation. If needed, the Department of Defense would activate the National Disaster Medical System that involved care in civilian hospitals.<sup>22</sup>

HSC played a significant role in the medical support of ODS within CONUS and also provided additional personnel for SWA and 7th Medical Command in Europe. HSC:

- simultaneously provided its routine health care support for all beneficiaries in CONUS, Hawaii, and Alaska, while fielding a state-of-the-art combat medical service;
- channeled thousands of officers and enlisted soldiers into CENTCOM and the AMEDD facilities in Europe; and
- coordinated the massive deployment of USAR and ARNG hospital units and ensured that they met required set readiness criteria.<sup>23</sup>

The first AMEDD units arrived in SWA in August 1990 including the 44th

Medical Brigade, the 47th Field Hospital, the 28th CSH, and the 5th MASH. Professional Officer Filler System personnel and Forces Command nurses were mobilized with these units and their exodus from HSC units initially created some military treatment facility staffing shortages in CONUS. Soon, however, these facilities used some 800 USAR/ARNG and retiree volunteers, and HSC subsequently activated additional reservists to backfill the CONUS and Europe losses. In a two-phase process, HSC called 24 USAR/ARNG units to active duty. It first activated nine hospitals and two dental units in August 1990 and called the remaining 15 units to active duty in early January 1991.<sup>24</sup>

In theater, the command organized hospitals into three Corps-level hospital clusters: (1) Echelons Above Corps (EAC), (2) XVIII Corps, and (3) VII Corps.

The EAC consisted of four Medical Groups, the XVIII Corps claimed two Medical Groups, and the VII Corps had two Medical Groups and an EVAC task force. There were 13,580 operating beds in 44 hospitals located in four countries (Saudi Arabia, Bahrain, United Arab Emirates, and Oman), which was triple the amount during the height of the Vietnam War. Of the 13,580 beds, 7,300 were in EAC units, 2,980 were in XVIII Corps, and VII Corps operated 3,300. Each Corps had a varied mix of hospital types determined by the Corps mission. Sixteen of the 44 hospitals came from the Active force, while the USAR activated 17 and the ARNG activated 11 facilities. The AMEDD also staffed nine host-nation hospitals, and the Army's 365th EVAC integrated with the Air Force's Contingency Hospital in Oman.<sup>25</sup>

To provide command and control for Army medical assets within SWA, the U.S. Army Forces Central Command Medical Group EAC (Provisional) began operation on 6 December 1990. The CENTCOM Medical Group served as the higher headquarters for four medical groups. The VII Corps and the XVIII Airborne Corps also provided other medical assets within the theater.<sup>26</sup>

The top level of joint leadership in the theater medical command structure consisted of a small cadre of Army and Air Force colonel and Navy captain medical officers, one from each service. Several pundits believed that the rank of these individuals was neither adequate nor commensurate with their responsibilities and advocated general or flag-rank medical officers for the positions. One critic noted the "extraordinary mismatch between the size, diversity and importance of the military medical assets committed in the Gulf and the meager command structure allowed in the theater for its operation and guidance was obvious to everyone from the start." The pre-ODS CENTCOM surgeon was Air Force Colonel Robert P. Belihar, and he remained in that senior position in CENTCOM for the duration of the war, at the direction of General H. Norman Schwarzkopf, who knew and trusted him.<sup>27</sup>

## Notes

1. Phil Gunby, "Military Medicine in the Balkans Now," *Journal of the American Medical Association* 282 (10 November 1999): 1707–09.

2. William Matthews, "Deployment Backs Up Diplomatic Initiatives Designed to Isolate Iraq," *Army Times* (20 August 1990): 12, 56. Richard L. West and Thomas D. Byrne, *The U.S. Army in Operation Desert Storm, An Overview* (Arlington, VA: Association of the United States Army, 1991), 3–4. Frank N. Schubert and Theresa L. Kraus, eds., *The Whirlwind War, The United States Army in Operations Desert Shield and Desert Storm* (Washington, DC: Center of Military History, United States Army, 1993), 21–23, 49–50. Andrew Leyden, *Gulf War Debriefing Book* (Grants Pass, OR: Hellgate Press, 1997).

3. Both Operation Desert Shield and Operation Desert Storm are abbreviated as ODS. ODS is also referred to as the Persian Gulf War or Gulf War I.

4. Richard L. West and Thomas D. Byrne, *The U.S. Army in Operation Desert Storm, An Overview* (Arlington VA: Association of the United States Army, 1991), 1. Robert H. Scales, *Certain Victory* (Washington, DC: Office of the Chief of Staff, United States Army, 1993). Richard M. Swain, "Lucky War" *Third Army in Desert Storm* (Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 1994): 1–11.

5. Richard L. West and Thomas D. Byrne, *The U.S. Army in Operation Desert Storm, An Overview* (Arlington VA: Association of the United States Army, 1991), 5. Directorate of Public Affairs, Headquarters, Forces Command, Fort McPherson, GA 30330, "Operation Desert Shield, 'A Line in the Sand,'" Bulletin 2-90, 27 August 1990, Smith Collection, U.S. Army Medical Department Museum.

6. Other commands included USEUCOM, USNORTHCOM, USAPACOM, and USSOUTHCOM.

7. Tom Donnelly, "All Eyes on CENTCOM," *Army Times* (20 August 1990): 14. Frank N. Schubert and Theresa L. Kraus, eds., *The Whirlwind War, The United States Army in Operations Desert Shield and Desert Storm* (Washington, DC: Center of Military History, United States Army, 1993), 43–44. Frank Best and Nancy Tomich, *Medicine in the Gulf War* (Washington, DC: U.S. Medicine, 1991), 159–60.

8. Frank F. Ledford, "Army Medicine Balancing Needs with Resources," *Army* 40 (October 1990): 180–83, 185. Frank Best and Nancy Tomich, *Medicine in the Gulf War* (Washington, DC: U.S. Medicine, 1991), 99–100. D.G. Tsoulos, "Command Report, U.S. ARCENT Medical Command, 1 August 1990 to 16 January 1991," Typewritten Report, 2,

1 March 1991, Army Nurse Corps Collection (ANCC), Office of Medical History (OMH). Ronald R. Blanck and William H. Bell, "Special Reports: Medical Aspects of the Persian Gulf War, Medical Support for American Troops in the Persian Gulf," *New England Journal of Medicine* 324 (21 March 1991): 857–59. Frank F. Ledford, "Medical Support for Operation Desert Storm," *The Journal of the US Army Medical Department*, PB8-92-1/2 (January/February 1992): 4. Frank F. Ledford, "Army Overcomes Combat Challenge," *U.S. Medicine* 28 (January 1992): 30–31. Ingeborg Sosa, "The Journal Interviews—LTG Frank F. Ledford, Jr., Surgeon General, United States Army," *The Journal of the US Army Medical Department*, PB8-92-3/4 (March/April 1992): insert between pages 30 and 31. Angel E. Cintron and George D. Magee, "Medical Logistics Support to Desert Storm," *The Journal of the US Army Medical Department*, PB8-92-9/10 (September/October 1992): 35–38. Barbara Jean Smith, "The Nurse Executive in Operation Desert Shield/Desert Storm," *Nursing Management* 24 (January 1993): 68–70.

9. Molly Moore, "Medical Corps Trying to Fill Supply Gap," *Washington Post* (6 January 1991): A21. ABC's Nightline news show highlighted a letter from a 28th CSH physician who complained about "shortages of everything from fluoroscopes and ultrasound equipment to blood, IV fluid and antibiotics." Other interviewed physicians claimed that the "220-bed hospital could . . . handle only 50 seriously wounded patients because of an acute shortage of nurses." James Kitfield, "Combat Medicine," *Government Executive* 23 (January 1991): 26–31. The Army directed that deploying units be filled to their authorized strength before deployment "to the maximum extent possible." Brent H. Fullerton, "Procedure for MACOM Branch Tasking Assignment Branches for Officer Fill in Support of Desert Shield," Information Paper, 14 August 1990, ANCC, OMH. Most of the hospital units in theater had their full complement of Army Nurse Corps officers. Some were even over strength. Marianne Mathewson-Chapman, "Theater Nursing Services," Memorandum, 14 March 1991, ANCC, OMH. However, on 1 April 1991, the 28th CSH had only 39 of its 46 authorized Army nurses. "XVIII Corps Nursing Status," Printed Chart, 1 April 1991, Smith Collection, U.S. Army Medical Department Museum. More letters of complaint surfaced. One concerned relative cited "generalized unsanitary condition[s]" at the 28th CSH, alleging that there was pseudomonas in shower water, filthy, fly-ridden bathrooms, pervasive mold and mildew, a lack of ice, little personal privacy, and a dearth of recreational activities. Concerned Relative to BG Clara Adams-Ender, Printed Letter, 24 August 1990, stapled in diary of Colonel Barbara J. Smith, Smith Collection, U.S. Army Medical Department Museum. Talking points reliably predicted that Persian Gulf operations would "be austere, with long supply and transportation lines." Directorate of Public Affairs, Headquarters, Forces Command, Fort McPherson, GA 30330, "Operation Desert Shield, 'A Line in the Sand'," Bulletin 2-90, 27 August 1990, Smith Collection, U.S. Army Medical Department Museum. "Synopsis of Operation Desert Shield 7 August–10 December 1990," Printed Document, 2, n.d., Smith Collection, U.S. Army Medical Department Museum. Ruth Cheney, "History of the 44th Medical Brigade Chief Nurse, Operations Desert Shield/Desert Storm," Printed Manuscript, 10–11, 7 June 1991, Cheney Collection, U.S. Army Medical Department Museum. James Kitfield, "Combat Medicine," *Government Executive* 23 (January 1991): 26–31. Tim Friend, "Medical Units Plan for Worst, Hope for Best," *USA Today* (20 February 1991): 1A.

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11. Frank F. Ledford, "War, Peace Roles: Army Measures Up," *U.S. Medicine* 27 (January 1991): 27–28. Frank F. Ledford, "Medical Support for Operation Desert Storm," *The Journal of the US Army Medical Department*, PB8-92-1/2 (January/February 1992): 4–5. Ingeborg Sosa, "The Journal Interviews—LTG Frank F. Ledford, Jr., Surgeon General, United States Army," *The Journal of the US Army Medical Department*, PB8-92-3/4 (March/April 1992): insert between pages 30 and 31. L.S. Holsenback, "'PSYCH-FORCE 90': The OM (Combat Stress) Team in the Gulf," *The Journal of the US Army Medical Department*, PB8-92-3/4 (March/April 1992): 32–36.

12. Office of the Under Secretary of Defense for Acquisition and Technology, *Report of the Defense Science Board Task Force on Persian Gulf War Health Effects* (Washington, DC: Department of Defense, 3 June 1994), 54, 56. Robert J. Ursano and Anne E. Norwood, eds., *Emotional Aftermath of the Persian Gulf War: Veterans, Families, Communities, and Nations* (Washington, DC: American Psychiatric Press, 1996), 18.

13. James A. Martin, Linette R. Sparacino, and Gregory Belenky, *The Gulf War and Mental Health, A Comprehensive Guide* (Westport, CT: Praeger, 1996), 167.

14. "Operation Desert Shield/Storm, Concept of Operations," Typewritten Document, n.d.; and Department of Defense, "Conduct of the Persian Gulf War," Appendix G, 452–53, April 1992 (both in ANCC, OMH).

15. Frank Best and Nancy Tomich, *Medicine in the Gulf War* (Washington, DC: U.S. Medicine, 1991), 8–9. Leigh Page, "Gulf's Medical System Beats Vietnam's, Military Says," *American Medical News* (4 February 1991): 1, 31. Phil Gunby, "Medical Efforts Intensify in Desert Storm's Fourth Week," *Journal of the American Medical Association* 265 (13 February 1991): 692–93, 697. Margaret Roth, "Saving Lives: A New Mission for Combat Troops," *Army Times* 51 (18 February 1991): 4. Joyce Price, "Hospitals Ready for Casualties of Ground War," *Washington Times* (25 February 1991): A10. Ingeborg Sosa, "The Journal Interviews—LTG Frank F. Ledford, Jr., Surgeon General, United States Army," *The Journal of the US Army Medical Department*, PB8-92-3/4 (March/April 1992): insert between pages 30 and 31. Mark Gifford, Interview by Author, 23 August 2005. T.R. Byrne, Telephone Interview with Author, 25 August 2005. Donald Hall, Telephone Interview with Author, 25 August 2005. *Department of Defense, Conduct of the Persian Gulf War, Final Report to Congress* (Washington, DC: Department of Defense, April 1992), Appendix G, Medical Support, 459, 469. John Hudock, "Army Nurse Corps Executive Summary of Desert Shield/Storm," Typewritten Document, n.d., ANCC, OMH. United States General Accounting Office, Report to the Chairman, Subcommittee on Readiness, Committee on Armed Services, House of Representatives, Operation Desert Storm, *War Highlights Need to Address Problem of Nondeployable Personnel*, GAO/NSIAD-92-208 (Washington, DC: GAO, August 1992), 14, 15. United States General Accounting Office, Military Personnel and Compensation, Committee on Armed Services, House of Representatives, Operation Desert Storm, *Full Army Medical Capability Not Achieved*, GAO/NSIAD-92-175 (Washington, DC: GAO, August 1992), 3, 4, 25.

16. William Joe Webb and others, *Department of the Army Historical Summary, Fiscal Years 1990 and 1991* (Washington, DC: Center of Military History, United States Army, 1997), 73. Frank F. Ledford, "War, Peace Roles: Army Measures Up," *U.S. Medicine* 27 (January 1991): 27–28.

17. No retired Army Nurse Corps officers were involuntarily recalled to active duty. However, 40 physicians and 30 physician assistants were so recalled to support ODS. Lieutenant Colonel Smith, "AMEDD Officer Personnel Strength Management," Information Paper, 11 March 1991, ANCC, OMH.

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20. Susan H. Godson, *Serving Proudly, A History of Women in the U.S. Navy* (Annapolis, MD: Naval Institute Press, 2001), 280. James S. Nanney to Nancy A. Dezell, "Number of AF Nurses Deployed to Gulf," E-mail Correspondence, 3 March 2005, ANCC, OMH.

21. Frank Best and Nancy Tomich, *Medicine in the Gulf War* (Washington, DC: U.S. Medicine, 1991), 115–16, 118–26. Veterans Health Administration, Gulf War (Including Operation Iraqi Freedom) Registry (GWR), *VA Handbook 1303.2* (Washington, DC: Department of Veterans Affairs, 7 March 2005), 1.

22. "VA Readies Its RN Ranks to Care for Critically Wounded Soldiers," *American Journal of Nursing* 91 (March 1991): 108. Virginia C. Stephanakis, "OTSG Input for January 1992 Issue of *U.S. Medicine*," Draft Manuscript, 1, 23 October 1991; and Robert S. Driscoll, "Reconstitution of Seventh Medical Command During Operation Desert Shield/Storm," Typewritten Manuscript, 5–7, 24 February 1993 (both in ANCC, OMH). Frank F. Ledford, "Army Overcomes Combat Challenge," *U.S. Medicine* 28 (January 1992): 30–31. Department of Defense, "Conduct of the Persian Gulf War," Appendix G, 451, 453, 456–57, 469, April 1992.

23. Frank N. Schubert and Theresa L. Kraus, eds., *The Whirlwind War, The United States Army in Operations Desert Shield and Desert Storm* (Washington, DC: Center of Military History, United States Army, 1993), 85–86.

24. Frank N. Schubert and Theresa L. Kraus, eds., *The Whirlwind War, The United States Army in Operations Desert Shield and Desert Storm* (Washington, DC: Center of Military History, United States Army, 1993), 86–87. "U.S. Nurses Mobilize for Operation Desert

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