Chapter 6

THE RESERVE COMPONENTS: MEDICAL AND RELATED ISSUES OF MOBILIZATION

DALE A. CARROLL, MD, MPH; AND DAVID N. COWAN, PHD, MPH

D. A. Carroll; Colonel, Medical Corps, US Army (Retired); Senior Vice President–Medical Affairs and Performance Improvement, Rockingham Memorial Hospital, 235 Cantrell Ave., Harrisonburg, VA 22801; formerly, Chief, Consultants Division, US Army Medical Command and Preventive Medicine and Family Practice Consultant to The Surgeon General, US Army

D. N. Cowan; Lieutenant Colonel, Medical Service, USAR; Special Projects Officer, Division of Preventive Medicine, Walter Reed Army Institute of Research, Silver Spring, MD 20910-7500

INTRODUCTION

The tempo of deployments for the Armed Forces of the United States increased in the aftermath of the Cold War. By 1998 the US Army was involved in twice the annual deployments as it had undertaken in 1988, averaging 22,000 soldiers deployed overseas on any given day. Between 1991 and 1998, the number of US Air Force personnel deployed increased 4-fold. The US Navy reported an 8% increase in the number of ships at sea between 1993 and 1998. Before 1989, the US Marine Corps averaged one contingency or exercise every 15 weeks. By 1998 the average was one every 5 weeks.[1]

This marked increase in operational tempo (otempo) came at the same time as a drastic decrease in active duty personnel strength. The combined increase in otempo and the concurrent decrease in available strength has led to an increased role for the Reserve Component (RC) of the US Armed Forces. In addition to the large role played in the Persian Gulf War, the RC has contributed significantly to deployments ranging from disaster relief (eg, Hurricane Mitch in Central America) to peacekeeping (eg, Bosnia).

The role of RC forces has also increased in domestic operations. The support they provide has ranged from supporting law enforcement agencies to providing dental care to Native Americans and Eskimos.[2(p141)] The RC is also playing a critical role in the developing doctrine of homeland defense. The Army National Guard (ARNG) has been authorized to form Weapons of Mass Destruction Rapid Assessment and Initial Detection teams to provide rapid-response support to civilian authorities in the event of domestic use of such weapons.[3] The US Army Reserve (USAR) will field reconnaissance and decontamination teams and will enhance the capabilities of USAR medical units in the areas of combat stress control, triage, and patient decontamination.[4]

The RC has undergone significant force reductions—from 1.6 million reservists in 1989 to 1.3 million in 1998.[2(p133)] This trend of increasing reliance on the RC, even in the face of decreasing RC force structure, reaffirms that the RC is a crucial component in the successful implementation of US national security and military strategies, both internationally and domestically. This chapter will discuss the organization of the RC, the mobilization process, and medical issues associated with the RC. The RC plays a major role in the mobilization process and faces a set of medical issues somewhat different from those that affect the active component (AC). Knowledge of the RC structure and the mobilization process should facilitate the accession of the RC component upon mobilization. Sensitivity to the medical issues of mobilization should help improve the accession morbidity rates during and after deployment.

RESERVE COMPONENT ORGANIZATION AND FUNCTIONS

RC personnel in all the services belong to one of three major personnel classifications: the Ready Reserve, the Standby Reserve, or the Retired Reserve. Individual reservists may be assigned to units and drill with their units on a routine basis, while others may have no drill requirements and not be assigned to a unit.

The Ready Reserve

The Selected Reserve, the Individual Ready Reserve (IRR), and the Inactive National Guard make up the Ready Reserve. Selected Reservists are typically assigned to units that drill on a routine basis. These units may be operational units, which train and deploy as units, or augmentation units, which train together but when mobilized augment AC units. The Individual Mobilization Augmentee (IMA) is a reservist preassigned to a billet that must be filled on or shortly after mobilization in an AC organization, the Selective Service System, or the Federal Emergency Management Agency. IMAs train on a part-time basis with the organizations to prepare for mobilization.[2(p90)] Reservists on full-time active duty or full-time National Guard duty to support the RC (Active Guard/Reserve) are also considered part of the Selected Reserve.

IRR and Inactive National Guard personnel are typically individuals who have been previously trained by virtue of AC or RC service and have a remaining service obligation. IRR and Inactive National Guard personnel do not drill on a routine basis but may volunteer for annual training or military schooling.

The Standby Reserve

Members of the Standby Reserve are individuals who have completed their active duty or reserve service commitment and have requested assignment to the Standby Reserve. The Standby Reserve

also includes individuals who have been released from the IRR or an RC unit because they have been elected to Congress, they hold a position as an essential government employee, they are pursuing graduate degrees in the health professions, or they have extreme temporary hardships. Members of the Standby Reserve are not required to attend drills and are not assigned to units.

The Retired Reserve

The Retired Reserve consists of individuals who are retired from the AC or who have served 20 or more years of qualifying service in the RC and are eligible for retired pay when they reach the age of 60. The Navy and Marine Corps, however, transfer enlisted members who retire after 20 or more years but fewer than 30 years of active duty to the Fleet Reserve or the Fleet Marine Corps Reserve until the individual reaches 30 years of service. Members of the Fleet Reserve and the Fleet Marine Reserve can be involuntarily called back to active service. Retired personnel in the Army and Air Force are not subject to involuntary recall.[2(p94)]

Retired reservists are categorized based on the length of time since retirement and presence of a disability that would preclude mobilization. Category I includes those individuals who have no disability, are less than 60 years old, and have retired within the past 5 years. Category II comprises those individuals with no disability and who are under 60 years of age but who have been retired for longer than 5 years. Individuals of any age with a disability, regardless of time since retirement, make up Category III. Retirees in categories I and II are considered "mobilization assets" [2(p93)] and are included in the total DoD mobilization base. In contrast, retirees in Category III "with selected skills, primarily medical personnel, are considered mobilization assets on a case-by-case basis."[2(p93)]

RESERVE FORCES OF THE MILITARY SERVICES

Each of the four military services has a reserve force structure to augment and complement the AC. The Army and the Air Force have both reserve and National Guard forces within their respective reserve structures. National Guard personnel are considered part of the Ready Reserve. The US Coast Guard, although not usually considered a part of the Department of Defense (DoD), also has a reserve establishment. Exhibit 6-1 summarizes and contrasts the policies of each of the Services in regard to their RC mobilization and peacetime employment of RC assets.

US Army Reserve Components

US Army National Guard

In fiscal year 1998, the ARNG made up approximately 34% of the total Army personnel strength. It also contributed to the Total Army 54% of the combat arms units, 35% of the combat support units, and 35% of the combat service support units.[3]

The ARNG has a federal and a state mission. The federal mission is "to maintain properly trained and equipped units to be available for prompt mobilization for war, national emergencies or as otherwise needed.…The state mission is to provide trained and disciplined forces for domestic emergencies or as otherwise directed by state law."[5(p26)] The ARNG of the separate states, territories, and District of Columbia are commanded while in state service by the governor through the state adjutant general (or their equivalents). ARNG forces are permitted to engage in law enforcement activities only when in state service. Federalized ARNG units are prohibited, as are AC units, from engaging in law enforcement activities except in extremely limited circumstances.

US Army Reserve

The mission of the USAR is "to provide trained units and qualified individuals who are available for active duty in the United States Army in time of war or national emergency and at such other times as the national security requires."[5(p32)] USAR troop units are primarily combat support or combat service support. In fiscal year 1998, the USAR contained approximately half of the Total Army's combat service support force structure.[4]

US Naval Reserve Component

The mission of the US Naval Reserve (USNR) is analogous to that of the USAR. Approximately 30% of Selective USNR personnel serve in commissioned units. These are "completely operational entities that have their own equipment and hardware, including ships, aircraft squadrons, construction battalions, cargo handling battalions, mobile inshore undersea warfare units and special boat units. They are structured and equipped to come on active duty and function independently or alongside active

EXHIBIT 6-1

US SERVICE MOBILIZATION POLICIES

Army	• Heavy reliance on reserves for combat service support • Involuntary call-up to ensure access to units and to maintain unit integrity
Air Force	• Extensive peacetime use of reserves (especially strategic lift) • Volunteers used to fill missions
Marine Corps	• Volunteers used to augment • Reserves not required for initial operations
Navy	• Prefers involuntary call-up for unit integrity and visibility • Able to meet requirements with volunteers
Coast Guard	• Extensive use of peacetime reserves to augment active duty units • Some reserve units (Port Security Units) are required for initial operations

Source: US Department of Defense. *Joint Tactics, Techniques, and Procedures for Manpower Mobilization and Demobilization: Reserve Component (RC) Call-up*. Washington, DC: DoD; 1998. Joint Publication 4-05.1, III-4.

units."[2(p143)] The remainder of the Selective Reservists serve in augmentation units, which augment active units.

US Marine Corps Reserve Component

The mission of the US Marine Corps Reserve (USMCR) is consistent with the missions of the USAR and the USNR. The USMCR contributes a balanced force package of air, ground, combat, and combat support forces to the USMC total force. The USMCR, however, contributes 100% of the USMC civil affairs and adversary squadrons.[2(p148)]

US Air Force Reserve Components

US Air National Guard

The mission of the Air National Guard (ANG) is analogous to that of the ARNG, and, like the ARNG, the ANG is considered a state asset until it is federalized. The ANG is responsible for the air defense of the continental United States and is equipped with state-of-the-art aircraft. The ANG's capabilities span the spectrum of air operations. In fiscal year 1998, the ANG provided "one-third of the Air Force's tactical fighters, 43.2 percent of the KC-135 aerial refueling tankers, and 25.5 percent of the rescue and recovery capability…representing 34.4 percent of the total Air Force aircraft inventory."[2(p131)]

US Air Force Reserve

The mission of the US Air Force Reserve (USAFR) is to support the Air Force in its mission. The USAFR's contribution to the Air Force total force package includes tactical airlift, special operations, aerial refueling, rescue, heavy bombers, and tactical fighter aircraft. The USAFR also contributes a significant proportion of the Air Force's logistical, engineering, and medical support.[6] The USAFR and, to a lesser extent, the ANG frequently perform "real-world" missions as part of their training; they routinely conduct or participate in AC missions.

US Coast Guard Reserve Component

The US Coast Guard Reserve (USCGR) provides trained personnel to be activated in times of war and national emergency or when DoD requires additional personnel.[5] The Coast Guard is normally an agency of the Department of Transportation. Portions or all of the Coast Guard may be transferred to the Navy during wartime or at the direction of the President. The roles of the Coast Guard include maritime safety and law enforcement, marine environmental protection, and national defense. During wartime, these activities are expanded to include "preparing, coordinating and conducting operations in support of the coastal defense of both the United States and in-theater ports of

debarkation."[5(p50)] USCGR forces are frequently tasked with drug and illegal immigrant interdiction missions, as well as domestic disaster assistance operations.

USCGR personnel and units are seamlessly integrated with the active component; most USCGR personnel are assigned to the active duty command that they would augment when they mobilize.[2] Certain capabilities are, however, concentrated in the USCGR. For example, the majority of the Coast Guard's deployable port security units are located in the USCGR. Reservists frequently perform "real-world" missions as part of their training and are often called on to fill AC shortfalls in day-to-day operations.[2(p158)]

MOBILIZATION

Mobilization is defined by the DoD as "the process of preparing for war or other emergencies..."[7(pI-1)] There are two components of mobilization: the military mobilization process and the national mobilization process.

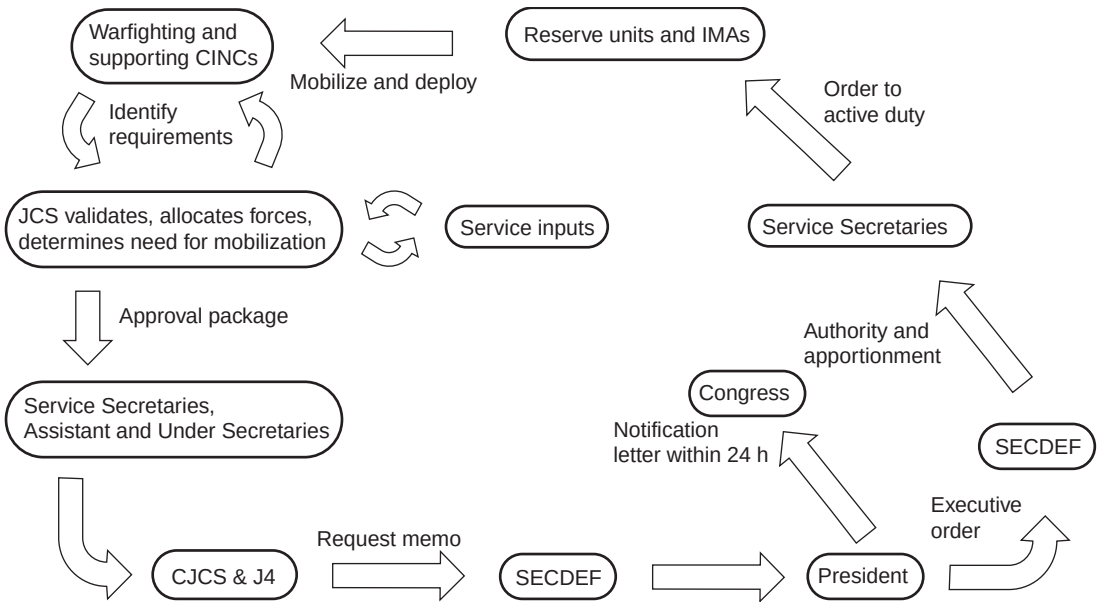
Military Mobilization

Military mobilization refers to the process of bringing the military to an increased state of readiness. Mobilization connotes much more than just accession of personnel and units. Mobilized forces must be equipped, trained, and sustained. The mobilization process is designed to enable a flexible response to emergencies as part of a graduated response process. The graduated response process allows the National Command Authority (NCA) [the President and the Secretary of Defense] to respond to emergencies by choosing from a menu of mobilization options.

How the RC is Mobilized

Figure 6-1 depicts a notional scenario requiring a Presidential Selected Reserve call-up (PSRC). In the scenario, a Commander-in-Chief (CINC) of one of the geographical joint combatant commands is ordered to respond to a contingency. Geographical CINCs are responsible for planning for possible contingencies and unexpected events in their area of responsibility. The planning factors include an estimate of forces required, which typically include RC forces.

In the notional case shown in Figure 6-1, the CINC



CINC: Commander in Chief
JCS: Joint Chiefs of Staff
CJCS: Chairman, Joint Chiefs of Staff
J4: Logistics at the Joint Chiefs level
SECDEF: Secretary of Defense
IMA: Individual Mobilization Augmentee

Fig. 6-1. Mobilization under a Presidential Selected Reserve Call-Up. Source: Goodbary RA. Reserve Forces of the United States Army. Presented at the United States Army War College; Dec 10, 1995; Carlisle, Pennsylvania.

identifies force requirements and submits the requirements to the Joint Chiefs of Staff for validation. The Joint Chiefs allocate forces and determine the need for mobilization. The Service Chiefs of the Army, Navy, Air Force, and Marine Corps join in the planning at an early stage. After the validated force package is approved by the various Service Secretaries and the necessary Under Secretaries and Assistant Secretaries of Defense, it is submitted to the Chairman of the Joint Chiefs of Staff, who requests that the Secretary of Defense inform the President of the need for RC mobilization. The President issues an executive order for the call-up and orders the Secretary of Defense to implement it. The President informs Congress within 24 hours of the executive order. In the meantime, the Secretary of Defense has ordered the Service Secretaries to mobilize the necessary forces. The identified RC units and personnel are mobilized and deploy to the crisis area in conjunction with AC units.

Levels of Military Mobilization

The NCA has a range of mobilization responses to apply to a crisis at any level of the continuum of military operations. The levels of mobilization are shown in Figure 6-2 and the legal authorities for mobilization are shown in Table 6-1. The range of responses available is shown in Figure 6-3. In addition to these options, other personnel management options are available to the services during a mobilization. Stop-loss actions enable the services to retain members beyond their terms of service. Stop-movement actions stabilize personnel by such methods as changing tour lengths or freezing all reassignments. Redistribution actions, such as cross leveling (ie, transferring) of personnel to high priority units, is another administrative action that may be used to respond to emergencies.

Mobilization of materiel and equipment is crucial if mobilized personnel are to carry out their assigned missions. The Persian Gulf War led to several logistics initiatives. These initiatives include the prime vendor concept whose aim is to realize cost savings by the selection of a single supplier for Class VIII (medical) supplies for medical treatment facilities in a specific geographic area. Another initiative is "just-in-time" delivery whose purpose is to ensure delivery of supplies when actually needed, thus enabling units to avoid accumulating large stockpiles of supplies and equipment. Finally "in-transit visibility" enables the logistician to pinpoint the exact location of an item anywhere in the logistical chain. A major

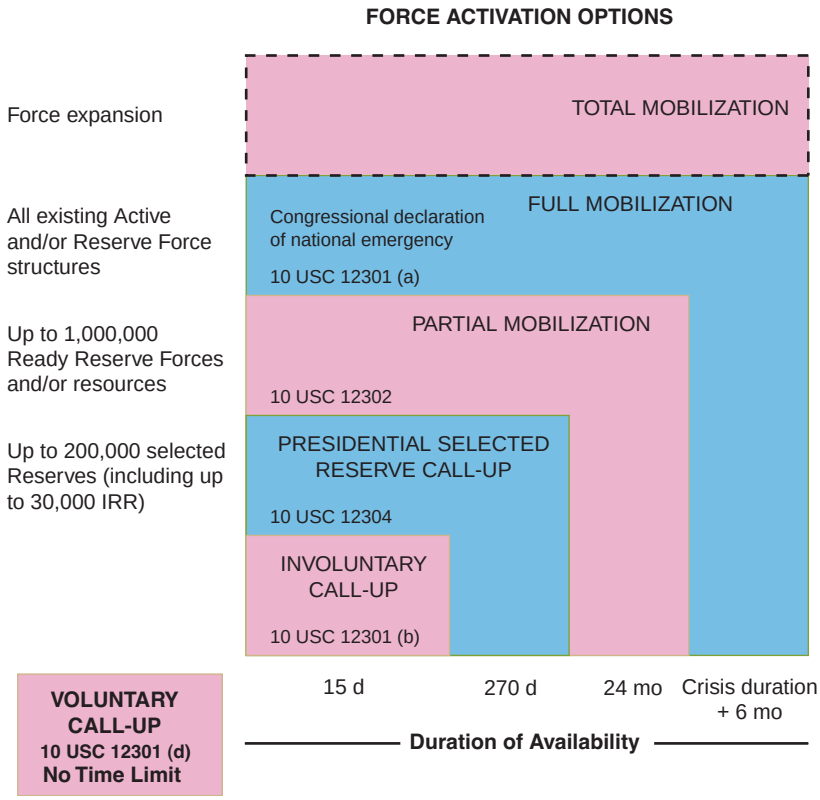


Fig. 6-2. Levels of Mobilization. Source: US Department of Defense. *Joint Tactics, Techniques, and Procedures for Manpower Mobilization and Demobilization: Reserve Component (RC) Call-up*. Washington, DC: DoD; 1998. Joint Publication 4-05.1, C-1.

TABLE 6-1

LEGAL AUTHORITIES FOR MOBILIZATION

Level of Mobilization	Description	Action Required	Authority
Selective Mobilization (volunteer call-up and Service Secretary call-up)	Volunteers from National Guard and Reserves at any time under Title 10 USC 12301 (d). Units and individuals in an active status in an RC may be called without consent for not more than 15 days a year under 10 USC 12301 (b). Regular Retirees and Retired Reserve members with 20 years of active service may be ordered to active service involuntarily under 10 USC 688. Consent of state governors or the Commanding General of the District of Columbia National Guard is required for National Guard members serving under USC 12301 (b) or (d).	Publish order to active duty.	10 USC 331 10 USC 332 10 USC 333 10 USC 688 10 USC 12301 10 USC 12406
PSRC* (operational mission requiring augmentation of active force)	Units and individuals of Selected and Individual Ready Reserve; limited to 200,000 (including up to 30,000 IRR) at any one time (all Services) for up to 270 days without consent of the members. President must report to Congress within 24 hours of circumstances and anticipated use of forces. May not be used to perform any of the functions authorized by Chapter 15 or 10 USC 12406, or to provide assistance in time of serious natural or manmade disaster, accident, or catastrophe.	Presidential executive order to invoke authority. President delegates authority to the Secretary of Defense and the Secretary of the Department of Transportation. The Secretary of Defense may exercise stop loss authority IAW EO 12728.	10 USC 12304 10 USC 12305
Partial Mobilization (war or national emergency)	Ready Reserve units and individuals (NG and Reserve); limited to 1,000,000 (all Services) at any one time and not for more than 24 consecutive months.	Presidential executive order declaring a national emergency. President delegates authority to the Secretary of Defense and the Secretary of the Department of Transportation. If not previously ordered, the President will usually invoke stop loss. The Secretary of Defense may exercise stop loss authority IAW EO 12728.	50 USC 1631 10 USC 12302 10 USC 12305 10 USC 671a 10 USC 671b
Full or Total Mobilization (war or national emergency)	National Guard and Reserve units, members of the Selected, Ready, and Standby Reserve, and Retired Reserve. The period of active service may be for the duration of the war or emergency plus 6 months.	Passage of a public law or joint resolution by the Congress declaring war or national emergency. The Secretary of Defense may exercise stop loss authority IAW EO 12728.	10 USC 671a 10 USC 671b 10 USC 12301 10 USC 12305 10 USC 12306 10 USC 12307

*PSRC: Presidential Selected Reserve call-up; IRR: Individual Ready Reserve; EO: executive order; NG: National Guard; IAW: in accordance with

Source: US Department of Defense. *Joint Tactics, Techniques, and Procedures for Manpower Mobilization and Demobilization: Reserve Component (RC) Call-up*. Washington, DC: DoD; 1998, B-2.

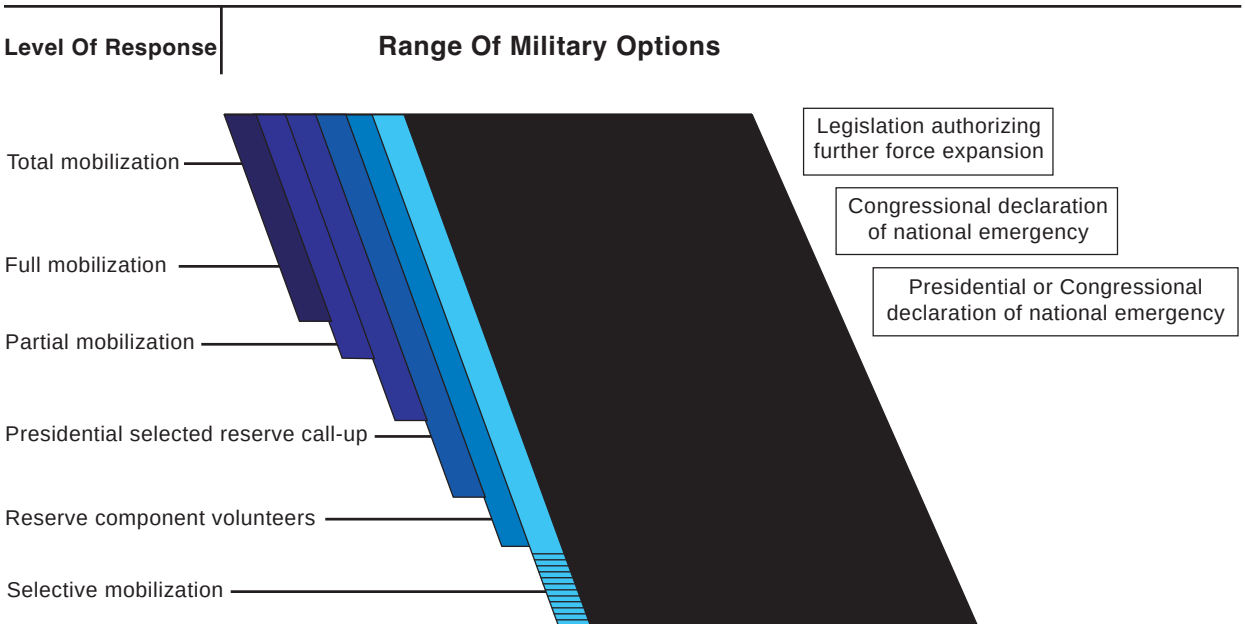


Fig. 6-3. Levels of Response. Source: US Department of Defense. *Joint Tactics, Techniques, and Procedures for Manpower Mobilization and Demobilization: Reserve Component (RC) Call-up*. Washington, DC: DoD; 1998. Joint Publication 4-05.1, III-5.

mobilization will severely test the validity of these concepts, especially in the area of medical logistics. The Persian Gulf War revealed problems with the availability of certain medical materiel items, such as immune serum globulin and anthrax vaccine. Shortages of other drugs and vaccines (eg, primaquine, adenovirus vaccine) have occurred when pharmaceutical and vaccine manufacturers have closed or mothballed facilities or production lines for items of military importance that either lack widespread civilian applicability or are no longer profitable.

Mobilization, especially full mobilization (the call-up of all reserve components) and total mobilization (full mobilization plus the addition of new force structure and personnel), requires coordination and action by numerous federal departments and agencies. The responsibilities of agencies such as the Federal Emergency Management Agency in domestic emergencies and the Office of Foreign Disaster Assistance in foreign emergencies are explained in chapters 45, The International Humanitarian Response System and the US Military and 46, Domestic Disaster Response: FEMA and Other Governmental Organizations.

RC forces are increasingly required to augment and complement AC forces in Security and Support Operations (SASO) such as foreign disaster assistance operations, complex humanitarian emergencies, and peacekeeping or peace enforcement operations. RC forces can be accessed for these operations by any of the mobilization schemes shown in Table 6-1, dependent upon the decision of the NCA as determined by the scope of the operation.

The Military Health System and Mobilization

Demands on the System During Mobilization

Mobilization, at any level, involves the Military Health System (MHS) and will result in significant demands on that system. Increased rates of disease, for example, may become a concern. Massive numbers of mobilized personnel may be housed in overcrowded billets, with the consequent increased risk of respiratory diseases. A surge in the numbers of individuals undergoing initial entry training will result in the same risks. Increased demands on food service facilities may increase the risk of foodborne diseases. The social, family, and personal upheavals associated with mobilization may result in problems such as an increased rate of sexually transmitted diseases and increased rates of family violence and drug and alcohol use. Environmental and occupational concerns may arise due to reactivation of mothballed facilities and training areas. Increased production, transportation, storage, and use of chemicals, fuels, and munitions may result in increased risk of toxic material releases. All of these will need to be planned for by the MHS.

MHS assets will need to be allocated to perform medical and dental examinations and screening of RC personnel after mobilization begins. Preventive medicine personnel will play major roles in the screening of individuals before deployment. The difficulties encountered in evaluating individuals with symptoms associated with the Persian Gulf War and the lack of predeployment data have led to the development of joint predeployment screening protocols based on a DoD Directive[8] and a DoD Instruction.[9] Preventive medicine officers play key roles in the development of recommendations for predeployment immunizations and chemoprophylaxis. They prepare disease threat assessments and deliver disease threat briefings to deploying and deployed forces. Preventive medicine is also responsible for providing sustainment training of personnel and units in individual- and unit-level preventive medicine countermeasures.

Provisions for health care of non–active duty beneficiaries will be required. The number of non–active duty beneficiaries will be increased by the inclusion of family members of the newly accessed RC forces. One of the expected benefits of the military's TRICARE system will be the ability of the associated TRICARE networks to assume, during mobilization, a large portion of the health care workload for non–active duty beneficiaries. TRICARE is DoD's managed healthcare program designed to enhance the quality and accessibility of health care for beneficiaries while controlling costs. The plan consists of regional triservice medical coordination of health care in cooperation with private healthcare contractors. The contractors establish networks of nonmilitary healthcare providers to supplement DoD health care.

The preparation for receipt of casualties will result in the expansion of hospitals in the United States and the need for increased stocks of medical materiel. An increase in the requirement for blood and blood products will result in further strain on elements of the MHS. Preventive medicine activities can expect increased workload as they follow up on bloodborne infections (eg, hepatitis C) detected in donors.

Increased occupational health requirements from surging industrial activities can be expected. In addition, the Total Force Concept of full integration of DoD civilians will result in many DoD civilians with special skills being deployed to combat zones. The occupational health needs of these personnel must be met before and during deployment. Operations in the 1990s have reflected an increased role for DoD contractors and their personnel. The role of the MHS in health care for contracted personnel depends on the terms of the specific contract. In some operations, DoD has contracted for provision of certain preventive medicine functions after the area of operations has matured.

Demands on the System during Demobilization

Preventive medicine personnel will be active during redeployment and demobilization. The Persian Gulf War illness evaluation process has led to the development of more comprehensive postdeployment screenings.[9] Returning individuals will require information on diseases with long incubation periods to which they may have been exposed. In many cases, informational materials may need to be developed to assist primary care providers in providing health care to demobilized personnel. This is especially an issue with RC personnel. Individuals may return to the United States with latent diseases such as leishmaniasis or malaria. Tuberculosis screening will likely be required. Although political pressure tends to hasten demobilization, crowding of billets may still occur, leading to increased risk of airborne and foodborne infections.

Military Support to Civilian Authorities in the United States

Legal Authority

RC forces may be mobilized as part of a Joint Task Force established to provide military assistance to civilian authorities. DoD Directives 3025.1,[10] 3025.12,[11] and 3025.15[12] provide guidance for military support for civilian disasters, domestic civil disturbances, and domestic counterterrorism operations. Military assistance to civilian law enforcement officials is addressed in DoD Directive 5525.5.[13]

The level of mobilization and the actions required to mobilize forces for domestic operations are identical to those required for a wartime mobilization (Table 6-2). The NCA may order any level of mobilization to provide assistance dependent on the severity of the event. The following discussion focuses on the RC role in domestic disaster assistance or major terrorism incidents.

On declaration of a national emergency requiring DoD support, ARNG and ANG units are frequently already providing support as part of the state's emergency response plan. Guard medical units, along with Disaster Medical Assistance Teams (volunteers who can be called to federal service in times of emergency and so can provide care outside the states in which they are licensed or certified; see chapter 46, Domestic Disaster Response: FEMA and Other Governmental Organizations), are often the first health care support units to arrive in the emergency area. The ANG and the ARNG are not federalized in most emergencies.

TABLE 6-2

HEALTH SERVICE SUPPORT MOBILIZATION: SOURCES AND OPTIONS

Situation	Sources of Health Service Support	Mobilizing Health Service Support	Actions Required
Any level of emergency	RC health service support units and individuals	Mobilize volunteer individuals and units of the Selected Reserve	Military Departments order units and volunteer individuals to active duty within the limits of presidential authorities invoked
	Department of Veterans Affairs hospitals	Implement the Department of Veterans Affairs–DoD Contingency Plan	DoD and Department of Veterans Affairs act in accordance with the Department of Veterans Affairs and DoD Health Resources Sharing and Emergency Operations Act (38 USC 8111A) when DoD requirements exceed supply of continental US military hospital beds
	Host-nation health care systems	Activate host-nation support agreements	Geographic combatant commander requests support in accordance with agreements
National emergency or war	RC health service support units and individuals	Mobilize remaining RC health service support units and individuals	Military Departments order RC units and individuals to active duty
	Domestic civilian health care system	Transfer US Public Health Service commissioned members to DoD or US Coast Guard	US Public Health Service assigns members to DoD or US Coast Guard with request from Secretary of Defense or Transportation and presidential executive order
		Activate National Disaster Medical System	Secretary of Defense acts under provisions of Public Health Service Act when hospital bed requirements exceed capacity of DoD and Department of Veterans Affairs

Source: US Department of Defense. *Joint Doctrine for Mobilization Planning*. Washington, DC: DoD; 1995. Joint Publication 4-05, IV-20.

Maintaining state control of the Guard provides the governor with a more flexible force to respond to the emergency (as federalized Guard units lose their law enforcement authority).

The National Disaster Medical System

The National Disaster Medical System (NDMS) is a key component of the medical response to national mobilization and is also a key component in federal disaster and emergency assistance operations. NDMS and its functions in those situations are explained more fully in chapter 46, Domestic Disaster Response: FEMA and Other Governmental Organizations. The Assistant Secretary for Health in the Office of Emergency Preparedness, Department of Health and Human Services, is responsible for the NDMS in peacetime. The DoD assumes control of the NDMS during wartime. The program is a partnership among the Departments of Health and Human Services, Veterans Affairs, and Defense. NDMS has two primary missions: "(1) to supplement State and local medical resources during major domestic natural and man made catastrophic disasters and emergencies; and (2) to provide backup medical support to the Department of Defense (DoD) and the Department of Veterans Affairs (VA) medical systems in providing care for U.S. Armed Forces personnel who become casualties during overseas conventional conflicts."[14(pII-1)]

MEDICAL CHALLENGES TO MOBILIZING THE RESERVE COMPONENT

The challenges of mobilizing RC units may not be widely appreciated by inexperienced AC or RC commanders or medical personnel. In addition to the medical concerns already mentioned and those discussed below, there are myriad organizational hurdles to overcome, usually with limited time and support. A medical officer with an RC engineer battalion during the Persian Gulf War found that diffi-

culties with medical clearance for deployment fell into three categories (administrative, logistic, and supply) and that careful planning would help overcome most of these problems.[15] Amato provides 12 specific recommendations related to administrative planning, use of chain of command, consistent medical qualification policies, use and maintenance of medical records, and appropriate use of medical personnel. He also reported that some medical personnel were overtly obstructive to the mobilization process because of their personal convictions regarding the propriety of the conflict. This article may be helpful to commanders and medical personnel who may be mobilized or assist with RC mobilization.

Medical and Fitness Issues

While the types of units found within each component vary even within branches of service, there are some commonalities about reservists among the various Reserve Components. RC members are generally older than active duty members of their parent services and usually have a civilian job, which may or may not be related to their military occupation. RC members have limited and intermittent contact with the active component, as they usually drill 1 weekend a month and perform 2 weeks of active duty each year. Physical training conducted during reserve duty sessions is insufficient in itself to ensure fitness. When physical training was conducted during drills, it was found not to be an effective or efficient method of improving the fitness of National Guard soldiers.[16] For several reasons, RC individuals can be a cause for preventive medicine concern during times of mobilization, deployment, and redeployment. While most reservists will perform their military tasks without becoming injured, ill, or otherwise a medical liability, the risk of such an event may be higher among reservists.

There have been several published reports regarding the physical and medical fitness of reservists. The physical fitness of these individuals has been found to be lower than that of active duty members in Canada[17] and in the United States.[18] Although there are limited data comparing the risk of injuries between RC and AC members during training exercises, reservists experience substantial levels of training-associated injuries. Korenyi-Both and colleagues[19] found that over a 4-year period, injuries accounted for over one third of sick call visits in a USAR mechanized infantry brigade, and that musculoskeletal injuries were the most common type. Foulkes[20] evaluated orthopedic injuries experienced by an ARNG brigade activated for Operation Desert Storm and found that 26% were degenerative or due to overuse, two categories that may be difficult to differentiate and that may be related to fitness.[21]

There have been reports that substantial proportions of RC members were not medically fit for mobilization during the Persian Gulf War.[22] An earlier study[23] found that, on average, ANG members would need from 3 to 5 hours of dental treatment for necessary operative and rehabilitative dental care. One study[24] found that between 46% and 58% (depending on whether previous or current criteria were used) of Army RC soldiers examined in 1991 had a class 3 finding (ie, the existing condition is likely to result in a dental emergency within the next 12 months). During the mobilization for the Persian Gulf War, Rothberg and colleagues[25] studied 2,723 IRR soldiers called to active duty. Twenty-five percent were rejected for activation; the most common reasons were overweight (29% of rejections), sole parent of a minor child (25%), orthopedic problems (12%), and mental problems (10%).

In addition, based on the personal experience of one author (DNC) as the commander of a reserve unit, as well as anecdotal reports from senior RC medical officers, it is clear that falsification of weigh-in and physical fitness records occurs, and some reservists do not report medical conditions that would prevent their participation or deployment (eg, asthma, diabetes). On the other hand, some reservists intentionally do not complete specific predeployment tasks (eg, the family support plan) so they will be deferred from deployment. The limited contact RC members have with the AC military makes it easier than it would be if they were AC members for these deficiencies to go undetected. The impact this has on force readiness and medical assets has not been quantified.

Psychosocial Problems

RC members may face social and psychological challenges that differ from those of AC members. Active duty servicemembers generally deploy with members of the same unit they have been working with on a daily basis for months or years. Military units are frequently social units as well, with friendships existing between both the members and their families. Military families often live in government housing or at least in the general proximity of the military installation. When deployed, these families can constitute a social support network, giving mutual psychological and social assistance.

Although RC members also generally deploy with their units, many are individually assigned as fillers to other reserve or active units. In addition,

the nature of reserve training (usually once a month and 2 weeks in the summer) is not conducive to developing close relationships. There is generally much less contact among the families, which often are scattered across a much wider area, and this provides fewer opportunities for developing effective social networks as compared to the situation with members of the active component.

Another important difference between an AC and an RC servicemember is the reservist's employment status. Active duty servicemembers continue in their usual occupation when deployed and have little change in their income level. While the jobs of mobilized RC members are secure by law, there can be very substantial changes in their incomes. Many RC enlisted members are highly educated professionals who maintain their military service both out of a sense of duty and to generate a small amount of additional income. However, their full-time military pay may be substantially lower than their full-time civilian pay. These differences may be even more dramatic when professionals such as physicians or attorneys are mobilized. A situation that can be even more financially devastating can occur when RC members are self-employed or own their businesses and employ others. There exists a potential for members in these situations to experience catastrophic financial setbacks, including the loss of businesses and subsequent unemployment for themselves and their employees. This has the potential to adversely affect morale and retention. Manglesdorff and Moses[26] compared the number of USAR medical department resignations for fiscal year 1990 (mostly before the Persian Gulf War) with fiscal year 1991 (during and mostly after the Persian Gulf War) and reported that Nurse Corps resignations rose from 82 to 429; Dental Corps from 28 to 115; Medical Corps from 99 to 435; and Medical Service Corps from 45 to 68. Many of these individuals reported suffering dramatic financial losses as a result of mobilization.

While there has been substantial research conducted evaluating psychological and social stressors on AC military personnel and their families, much less is known about RC personnel and their families. Black[27] reviewed stressors faced by active duty, National Guard, and Reserve servicemembers, based on data from the Defense Manpower Data Center, Monterey, California, collected in 1985 and 1986. He reported substantial differences in the spouses and families of RC members as compared to those of AC members. This included longer periods of marriage, older spouses, and a higher proportion of families with no children under 18 years of age. Compared to AC families, RC families were much more likely to have lived in their current location for more than 2 years. Black makes a number of reasonable recommendations regarding support groups but does not recommend how these can be oriented towards RC families. He does note that AC families are more likely to be distant from their extended families, while RC families may be socially isolated from other families in similar situations.

Since the end of the Persian Gulf War, there have been several studies evaluating concerns of RC members and their families. One study[28] evaluated indicators of stress among Air Force medical personnel shortly after the end of the war. Several areas of concern were found, including worries about families and financial concerns. A study of members of two USAR medical units was reported by Hammelman.[29] Soldiers reported being affected by the stressors more than their families. Several factors were associated with being affected more by the stressors, including being married, of higher rank, male, and a parent of preschool children. Unexpectedly, families of single parents were less affected than families with two parents. Apparently—but this was not explicitly stated—male reservists had greater concerns about financial difficulties than did female reservists.

A study[30] of mobilized Navy Reservists who responded to a questionnaire found that concerns of these personnel could be grouped into several categories, two of which were (1) financial and family hardship and (2) community and family support. Officers reported a higher level of financial difficulty than did enlisted members, which the authors attribute to the high proportion of physicians in the sample. Of the physicians, 63% reported a moderate-to-severe hardship on their civilian medical practice, and 42% reported a moderate-to-severe financial hardship. This article also reports on an unpublished Navy survey that found that more than 20% of the medical and dental officers reported a greater than 50% loss in income in the 6 months following their release from active duty. Less information was provided on community and family support, but the authors report a relatively high level of satisfaction with these issues among the study subjects.

Even less information is available regarding the reintegration of the RC member after release from active duty. Black[27] notes that a family's reunion may be more stressful than the separation and that readjustment may take up to 8 weeks but presents no RC-specific problems or solutions.

While psychological, social, and economic issues may not be routinely considered preventive medicine problems, these factors may directly affect preventive

medicine personnel and programs. Malone and colleagues[31] evaluated a USNR Construction Battalion unit and speculated that increased morbidity reported by RC personnel may have been due to psychological, social, and economic stresses different in magnitude and type from those experienced by AC personnel. They hypothesize that rapid mobilization and demobilization does not allow adequate time for servicemembers to process adverse experiences or fears. They also discussed that the unexpected disruption of families and careers resulted in domestic and financial pressures that were magnified in the older age groups, which are overrepresented in the Reserve Components. Adverse health effects, generally self-reported and of a vague nature, have been observed years after mobilization and demobilization related to the Persian Gulf War. Reservists are about twice as likely as active duty personnel to participate in the clinical evaluation programs operated by the DoD (ie, the Comprehensive Clinical Evaluation Program) and the Department of Veterans Affairs (ie, the Gulf War Health Registry), even though the actual types and degrees of morbidity among these personnel are not substantially different (Kang HK, 1997, unpublished data; DNC, 1997, unpublished data).[32,33] The reasons for the higher levels of participation are poorly understood, but the higher health care–seeking behavior and perceived health problems may present a military readiness issue and deserve further evaluation. It is largely the concern and activism by RC veterans that has driven the high degree of political and media interest in the health effects of serving in the Persian Gulf War.

SUMMARY

Mobilization, whether a military or a national mobilization, is a process that is vital to the national security of the United States. Access to the RC forces is a requirement for successful mobilization, and an understanding of the structure and function of the RC is crucial to understanding the mobilization process. RC personnel differ in a number of important characteristics from AC personnel, and there is substantial evidence that reservists have special physical, mental, and social concerns that affect both their ability to deploy and their health after they redeploy. All active duty and RC health care providers, and preventive medicine personnel in particular, need to understand these RC issues so they are prepared for the problems that may occur during a time of national emergency.

REFERENCES

1. Philpott T. Back on the edge. *The Retired Officer Magazine*. 1999;LIV:52–60.
2. Counts J, ed. *1999 Reserve Forces Almanac*. Falls Church, Va: Uniformed Services Almanac, Inc; 1999.
3. Schultz RC. The National Guard's secret to success. *Army Magazine*. 1998;48(10):95–100.
4. Plewes TJ. Army Reserve: A true partner in America's Army. *Army Magazine*. 1998;48(10):103–111.
5. Assistant Secretary of Defense for Reserve Affairs. *The Reserve Components of the United States Armed Forces*. Washington, DC: Department of Defense; 1996. DoD Pub 1215.15-H, 26.
6. Office of Public Affairs, Headquarters Air Force Reserve Command. Air Force Reserve Command briefing. January 1999. Available at: http://www.afres.af.mil.
7. US Department of Defense. *Joint Doctrine for Mobilization Planning*. Washington, DC: DoD; 1995. Joint Publication 4-05.
8. US Department of Defense. *Joint Medical Surveillance*. Washington, DC: DoD; 1997. DoD Directive 6490.2.
9. US Department of Defense. *Implementation and Application of Joint Medical Surveillance for Deployments*. Washington, DC: DoD; 1997. DoD Instruction 6490.3.
10. US Department of Defense. *Military Support to Civilian Authorities*. Washington, DC: DoD; 1993. DoD Directive 3025.1.
11. US Department of Defense. *Military Assistance for Civilian Disturbances*. Washington, DC: DoD; 1994. DoD Directive 3025.12.

12. US Department of Defense. *Military Assistance to Civilian Authorities*. Washington, DC: DoD; 1997. DoD Directive 3025.15.

13. US Department of Defense. *Department of Defense Cooperation with Civilian Law Enforcement Officials*. Washington, DC: DoD; 1986. DoD Directive 5525.5.

14. National Disaster Medical System. *National Disaster Medical System Strategic Vision*. Washington DC: NDMS; 1994.

15. Amato RS. Medical aspects of mobilization for war in an Army Reserve battalion. *Mil Med*. 1997;162:244–248.

16. Powell GD, Dumitru D, Kennedy JJ. The effect of command emphasis and monthly physical training on Army physical fitness scores in a National Guard Unit. *Mil Med*. 1993;158:294–297.

17. Song TM, Moore J. Physical fitness of militia forces. *Mil Med*. 1989:154:477–479.

18. Kokkinos PF, Holland JC, Newman R, Fiest-Fite B, Signorino CE. Physical activity, smoking, alcohol consumption, body mass index, and plasma lipid profiles of military reserve officers. *Mil Med*. 1989;154:600–603. Published erratum: *Mil Med*. 1990;155:51.

19. Korenyi-Both AL, Dellva WL, Juncer DJ. Prevalence of injuries and illnesses of a Reserve Separate Infantry Brigade (Mechanized) during annual training. *Mil Med*. 1991;156:280–282.

20. Foulkes GD. Orthopedic casualties in an activated National Guard Mechanized Infantry Brigade during Operation Desert Shield. *Mil Med*. 1995;160:128–131.

21. Jones BH, Cowan DN, Tomlinson JP, Robinson JR, Polly DW, Frykman PN. Epidemiology of injuries associated with physical training among young men in the Army. *Med Sci Sports Exerc*. 1993;25:197–203.

22. Loucks AB. Reserve readiness researcher studies NRRC Detroit. *Navy Med*. 1993;84(2):9.

23. Yacovone JA, Box JJ, Mumford RA. Dental survey of Air National Guard personnel. *Mil Med*. 1985;150:476–482.

24. Shulman JD, Williams TR, Tupa JE, Lalumandier JA, Richter NW, Olexa BJ. A comparison of dental fitness classification using different class 3 criteria. *Mil Med*. 1994;159:5–7.

25. Rothberg JM, Koshes RJ, Shanahan JE, Christman KW. Mobilization and rejection of Individual Ready Reserve personnel in Operations Desert Shield/Storm at a U.S. Army Quartermaster post. *Mil Med*. 1995;160:240–242.

26. Mangelsdorff AD, Moses GR. A survey of Army medical department reserve personnel mobilized in support of Operation Desert Storm. *Mil Med*. 1993;158:254–258.

27. Black WG Jr. Military-induced family separation: a stress reduction intervention. *Soc Work*. 1993;38:273–280.

28. Samler JD. Reserve unit mobilization trauma. *Mil Med*. 1994;159:631–635.

29. Hammelman TL. The Persian Gulf conflict: the impact of stressors as perceived by Army reservists. *Health Soc Work*. 1995;20:140–145.

30. Nice DS, Hilton S, Malone TA. Perceptions of US Navy medical reservists recalled for Operation Desert Storm. *Mil Med*. 1994;159:64–67.

31. Malone JD, Paige-Dobson B, Ohl C, DiGiovanni C, Cunnion S, Roy MJ. Possibilities for unexplained chronic illnesses among reserve units deployed in Operation Desert Shield/Desert Storm. *South Med J*. 1996;89:1147–1155.

32. Kang HK, Dalager NA, Watanabe KK. Persian Gulf Registry. Oral presentation at the National Institutes of Health Technology Workshop on the Persian Gulf Experience and Health; April 1994; Washington, DC.

33. Gray CG, Hawksworth AW, Smith TC, Kang HK, Knoke JD, Gackstetter GD. Gulf War veterans' health registries. Who is most likely to seek evaluation? *Am J Epidemiol*. 1998;148:343–349.