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**MILITARY PREVENTIVE MEDICINE:  
MOBILIZATION AND DEPLOYMENT  
VOLUME 2**

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The Coat of Arms  
1818  
Medical Department of the Army

A 1976 etching by Vassil Ekimov of an  
original color print that appeared in  
*The Military Surgeon*, Vol XLI, No 2, 1917

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The first line of medical defense in wartime is the combat medic. Although in ancient times medics carried the caduceus into battle to signify the neutral, humanitarian nature of their tasks, they have never been immune to the perils of war. They have made the highest sacrifices to save the lives of others, and their dedication to the wounded soldier is the foundation of military medical care.

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Deploying a healthy force at any time to any part of the world requires comprehensive and coordinated preventive medicine services. The challenges and the achievements of military preventive medicine in the US Armed Forces are embodied by these soldiers crossing a river in Haiti in 1995. They represent a carefully screened cadre of young Americans who enter military service and benefit from a scientifically sound program to reduce the threat of infectious diseases and injuries during basic training and deployment. When deployed to a harsh environment such as this one, they are prepared for potential hazardous exposures—infectious diseases, climatic extremes, chemical and nuclear exposures, and mental stressors—by military preventive medicine professionals. Military medical research and development provides their commanders with effective countermeasures. Their health is monitored to detect events that threaten individual health and operational effectiveness both in the field and in garrison. Military preventive medicine has always been a fundamental factor for ensuring operational success, but as US military doctrine shifts to emphasize rapid and relatively smaller deployments of forces accompanied by small medical elements, the preventive medicine mission takes on a new urgency.

Department of Defense photograph. DoD Joint Combat Camera Center Reference Number -SPT-95-000922.  
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# MILITARY PREVENTIVE MEDICINE

## MOBILIZATION AND DEPLOYMENT

### Volume 2

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# Foreword

It has been over 60 years since George Dunham wrote the last major US textbook on military preventive medicine. Both then and now, the mission of military preventive medicine has been to preserve the fighting strength through population-based methods of disease and injury avoidance. A comparison, however, of the tables of contents of Dunham's textbook and this one, *Military Preventive Medicine: Mobilization and Deployment*, illustrates that the scope of military preventive medicine has grown tremendously. This reflects changes in US warfighting doctrine, the expansion of the US military's role in operations other than war, the emergence of new disease and injury threats, and the changing demographics of our warfighters.

US military doctrine is increasingly focused on rapid deployment of lighter units that (1) are more widely dispersed on the battle space and (2) achieve advantages through information, tactical, and strategic dominance. Future military engagements will often evolve rapidly and put a premium on conserving scarce, highly trained, human resources. Central to the conservation of human resources are the needs for knowledgeable leadership, an understanding of the lessons of past conflicts, and systematic estimates of the medical threat prior to exposure; this new volume in the *Textbooks of Military Medicine* series reflects these needs. In a force drawn from a finite pool of volunteers, it is critical to have balanced accession standards and to do minimal damage while realistically training recruits. The growing interest of women in military service has not only increased the pool of much-needed talent but has also necessitated that approaches to prevention of training injuries and health maintenance be reevaluated to ensure that they reflect the needs of all service members.

Unlike 50 years ago, our forces are now expected to be able to move within hours from the US to the battlefield and arrive ready to fight. Although warfare is obviously dangerous, the risk of disease and nonbattle injury on the battlefield has often been underappreciated—along with the potential of countermeasures to mitigate that risk. This morbidity is appreciated increasingly as not just physical but also psychological. In Dunham's era, war-associated syndromes, nuclear and biological warfare, and emerging infections such as drug-resistant malaria, hepatitis C, and acquired immunodeficiency syndrome were not the threats that they are today. The requirement to conduct continuous surveillance for disease and nonbattle injury before, during, and after deployment speaks to the high investment that our military has in each service member and of their individual importance to military success.

In the post-Cold War era, the US military has been called on increasingly to assist with operations other than war including not only peacekeeping operations but also humanitarian assistance operations. In many of these operations, military preventive medicine is at the tip of the spear. Thus it is critical that all military medical personnel have an appreciation for the challenges posed by natural and manmade disasters, by large numbers of displaced persons, and for the different roles we may be called on to fill.

*Military Preventive Medicine: Mobilization and Deployment* reflects the evolution of preventive medicine in the military from its traditional focus on field hygiene and infectious disease control to encompassing the wide range of threats and scenarios associated with modern military service. There are many lessons to be learned from the textbook's emphasis on history and the military relevance of the conditions covered. However, the essence of this volume, like the practice of military preventive medicine, is timeless: our nation's greatness is reflected in our comprehensive care of those who serve. Preventive medicine of the highest quality is just recognition for their sacrifices and those of their families and communities. It is also a cornerstone to our military readiness. I hope that this textbook will help illuminate the path for those dedicated to pursuing that vision.

Lieutenant General Kevin C. Kiley, M.D.  
The Surgeon General  
US Army

Washington, DC  
September 2005



# Preface

Force health protection, although often a loosely defined focus of military medical departments in the past, has in the aftermath of the Persian Gulf War received especially explicit, thorough, and vigorous emphasis within the US Department of Defense. The overall US national military strategy at the turn of the millennium is to “shape, prepare, and respond” to potential national security threats around the world. As is noted in the Department of Defense’s *Doctrine for Health Service Support in Joint Operations*, force health protection has three corresponding functions: to shape a healthy and fit force, to prevent casualties through proper preparation of personnel, and to respond to casualties when they occur. Preventive Medicine is inherently central to developing a healthy and fit force and in keeping the force healthy through mobilization and deployment—even into the postdeployment phase. This is more critical than ever in light of a shrinking medical footprint and the need to provide immediate casualty care on the modern, rapidly mobile battlefield. Even once casualties occur, Preventive Medicine has an important tertiary prevention role that must be vigorously pursued if service members are to be successfully rehabilitated and avoid having their relatively manageable physical or mental problems evolve into long-term disabilities.

Force health protection is not only beneficial to the individual but also essential to unit readiness and performance. Contemporary military operations, whether in training, on the battlefield, or in the conduct of operations other than war, place units under the threat of an ever-widening array of biological, physical, and mental stressors. The mitigation of these requires military Preventive Medicine professionals to be familiar with a broad array of disciplines and to provide cohesive leadership and sound advice up and down the chain of command. This textbook aims to provide enabling insights with respect to these scientific, administrative, and leadership challenges.

The challenges of military Preventive Medicine are becoming ever more complex but are also very old. The solutions in many cases are well documented but often forgotten. In 1827, John Macculloch wrote prophetically that

it would seem, as if fatal, that the wisdom and experience of one generation should be forgotten by the next, that peace should extirpate the knowledge that had been gained in war.<sup>1</sup>

In 2003, *Preventive Medicine: Mobilization and Deployment* emphasizes these often-forgotten lessons of the past and it also provides a comprehensive approach to protecting the force in the current context of the US military’s global security mission. We, as military medical professionals, must understand this approach to be well prepared for responding to this mission in a focused, competent, and compassionate manner. Our great nation and its sons and daughters who volunteer to take on its most arduous burdens have ever-rising expectations of military Preventive Medicine. At their peril, we ignore the lessons at our fingertips.

Patrick W. Kelley  
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1. Macculloch J. *Malaria: An essay on the production and propagation of this poison and on the nature and localities of the places by which it is produced: With an enumeration of the diseases caused by it, and to the means of preventing or diminishing them, both at home and in the naval and military service.* London, England: Longman & Co; 1827.



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The current medical system to support the U.S. Army at war is a continuum from the forward line of troops through the continental United States; it serves as a primary source of trained replacements during the early stages of a major conflict. The system is designed to optimize the return to duty of the maximum number of trained combat soldiers at the lowest possible echelon. Far-forward stabilization helps to maintain the physiology of injured soldiers who are unlikely to return to duty and allows for their rapid evacuation from the battlefield without needless sacrifice of life or function.

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