PURPOSE

This Air Force Tactics, Techniques, and Procedures (AFTTP) 3-42.2 publication describes a theory and philosophy of casualty prevention for expeditionary operations. This document provides commanders guidance to implement effective casualty prevention strategies for expeditionary operations. It represents a firm commitment by the Air Force Medical Service (AFMS) to protect personnel from the hazards described above.

APPLICATION

This publication applies to all Air Force military and civilian personnel (including Air Force Reserve Command and Air National Guard units and members). The doctrine in this document is authoritative but not directive. Therefore, commanders need to consider not only the contents of this Air Force Doctrine Document (AFDD), but also the various issues relating to the particular situation in which they find themselves—national security objectives, forces available, enemy capabilities, rules of engagement—when accomplishing their assigned missions.

SCOPE

The AFMS must be able to rapidly respond to the full-spectrum of mission requirements. This document provides airmen information on the overarching principles, processes, procedures, and organizational framework through which the AFMS plans, directs, and executes casualty prevention for expeditionary operations. Ensure that all records created by this publication are maintained and disposed of In Accordance With (IAW) Air Force Manual (AFMAN) 37-139, "Records Disposition Schedule."

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Chapter 1

**INTRODUCTION**

1.1. Overview.

1.1.1.   Force Protection (FP) is a collection of activities that deter, detect, mitigate, or negate threats or hazards to Air Force interests, which prevent or detract from mission accomplishment. The AFMS largely contributes to FP through **Force Health Protection (FHP)**. FHP is a total life-cycle health support system that addresses health-related threats affecting combat forces and the supporting community before, during, and after deployment. Three central pillars support FHP: Healthy and Fit Force, **Casualty Prevention**, and Casualty Care and Management. The ability of the Air Force to conduct sustained combat operations is dependent on the resilience of the human weapons system. When the human weapons system is injured or becomes ill, operations suffer a decrement and additional resources are required to manage the casualty and replace the asset. Air Force Medical Service **casualty prevention activities are aimed directly at supporting sustained combat operations by preserving our most valuable asset: highly skilled and trained personnel.**

1.1.2. This TTP provides guidance to medical commanders and personnel on the prevention against the full spectrum of health threats facing today's forces while conducting expeditionary operations. This chapter lays out the basic principles of casualty prevention followed by Roles and Responsibilities in Chapter 2. The next three chapters discuss casualty prevention for expeditionary operations through the phases of pre-deployment, deployment and re-deployment, followed by a section on information management. Finally, Chapter 7, Education and Training lists some of the essential courses that help commanders and others understand and implement effective casualty prevention.

1.2. Casualties. Casualties are personnel unavailable for duty due to illness or injury. The types of casualties are Disease/Non-Battle Injuries (DNBI) and Battlefield Injuries/illnesses (BI). (See Figure 1.1). Both have operational relevance, as any casualty is a reduction in the availability of our most valuable asset. DNBI is largely a result of our own actions (or inaction), while BI is a direct or indirect consequence of enemy actions. Historically, DNBI has accounted for 60 to 90 percent of the casualty total. However, with our enemies' predicted use of asymmetrical threats such as Chemical, Biological, Radiological, Nuclear and High-Yield Explosives (CBRNE), our direct BI rates may increase. Indirect BI (unexposed anxious personnel) may overwhelm medical treatment facilities and dramatically reduce combat effectiveness if not effectively managed-- AFMS has a role in preventing both types of casualties. AFMS also has a role in identifying and preventing delayed casualties. Delayed casualties are those casualties whose symptoms may not be immediately apparent or whose symptoms do not manifest for weeks, months, or even years after initial exposure or injury. For example, victims of Gulf War Syndrome would be considered delayed casualties.

Figure 1.1. Types of Casualties
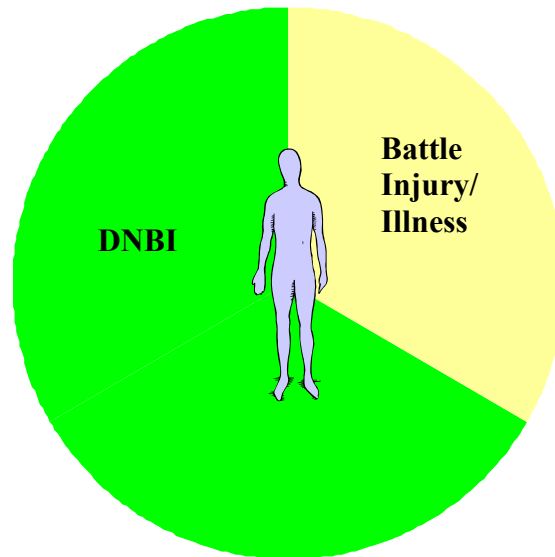
1.3. Sources of Casualties. To ensure AFMS addresses the total health risks to an individual and assists commanders in instituting appropriate risk mitigation strategies, we must establish a working model of the human weapons system environment. The health hazards that affect the human weapons system can be reasonably categorized into three areas: hazards associated with where the force deploys (Force Environment), hazards generated by what the force is doing (Force Activities), and hazards generated by the enemy (Attacks on the Force). When any of these hazards align with human weapon system vulnerability, there is a viable risk and casualties may result (Figure 1.2).

Figure 1.2. Sources of Casualties.
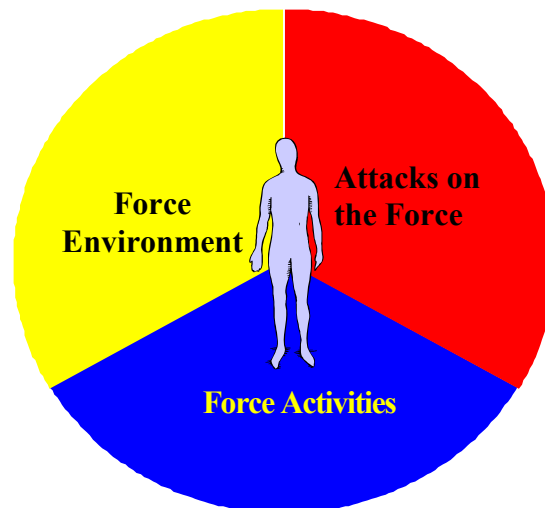
1.4. Prevention Strategies. When the Sources of Casualties figure (Figure 1.2) is overlaid on the Types of Casualties figure (Figure 1.1), the relationship between hazards

and casualties becomes clear.   In practice, force environment and force prevention activities support the prevention of DNBI (Figure 1.3). The ultimate goal of preventive medicine activities is to improve mission effectiveness by reducing/eliminating both battlefield illness/injury and Disease Non-Battle Injuries (DNBI).   This model is applicable to both garrison and expeditionary operations; only the proportion of the total health risk on an individual from any single component changes. An effective balance of preventive medicine activities based on a view of total health risk is required to achieve the ultimate goal of ensuring the force is available to prosecute the nation's wars.

Figure 1.3. Causes and Effects of Casualties.
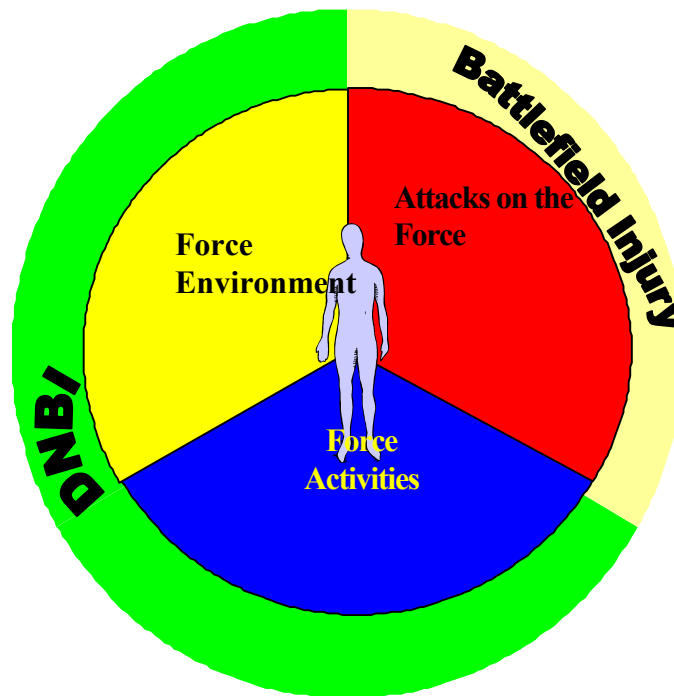
1.5. Operational Risk Management (ORM). Throughout this document the principles of ORM are used to give commanders and planners a framework to determine how to balance risk and mission in terms of casualty prevention. It is useful to visit the concepts of ORM as outlined in AFPD 90-9, *Operational Risk Management*. One way to look at ORM is the use of a matrix (Figure 1.5). The matrix has two axis, severity and probability. If we assign a severity and probability rating to a particular hazard, we can then give it a risk level on a scale of low to extremely high. The ORM method is valuable because it gives us a relatively simple risk assessment methodology that is in the same language as all other force protection vulnerability assessments, thus lending credibility to the medical commander.

Figure 1.4. Operational Risk Management Matrix.

1.6. Conclusion. The remainder of this TTP is devoted to providing the optimum medical force employment and planning considerations to ensure the full spectrum of hazards facing Air Force personnel are identified, vulnerabilities evaluated, and appropriate risk mitigation strategies are advocated to the command structure. Specific actions are required during each phase of the deployment cycle in order to minimize Air Force casualties.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. Overview. Many elements contribute to force protection and casualty prevention. This section describes these elements as well as the linkages between Line of the Air Force and Health Service Support (HSS) assets. Commanders at all levels have the responsibility for protecting Air Force personnel. Command and control structures should enable commanders to rapidly and effectively address passive defense issues and quickly react to force protection threats with active defensive or offensive operations. The overarching nature of the force protection effort requires it be coordinated and integrated at the highest levels and across all functional areas (see AFDD 2-4.1, *Force Protection* for further guidance). AFMS personnel identify potential health threats, develop courses of action, and advise commanders of the risks and countermeasures. Commanders must decide how they will use the advice to ensure their units carry out the actions required (refer to *Force Health Protection J-4 Publication.*)

2.2. Command Relationships.

2.2.1. The Secretary of the Air Force. The Secretary of the Air Force working through the Chief of Staff of the Air Force exercises control over force protection programming, training, staffing, manning, and developing force protection policy. The Air Staff's primary function lies in allocating additional forces and funding as needed to fulfill force protection requirements. (AFDD 2-4.1, *Force Protection).*

2.2.2. Major Command (MAJCOM). MAJCOM commanders should integrate force protection requirements into every aspect of their activities. They should authorize cross-functional coordinating bodies to establish guidance, program, and manage all force protection requirements for the MAJCOM, and to coordinate with the Air Staff. (AFDD 2-4.1, *Force Protection).*

2.2.3. Numbered Air Force (NAF). The NAF provides representation to the MAJCOM cross-functional staffs for force protection and input on requirements to their MAJCOM force protection focal point. (AFDD 2-4.1, *Force Protection).*

2.2.4. Air Force Forces (AFFOR). A Commander, Air Force Forces (COMAFFOR), will serve as the commander of Air Force forces assigned or attached to a joint force. A combatant command-aligned NAF is typically re-designated as the AFFOR (e.g., 9th Air Force serves as US Central Command Air Forces). This organizational structure may be tailored by the COMAFFOR to fit specific mission needs. This staff does not exercise direct control over casualty prevention activities, but serves a planning, coordination, and oversight role. The combatant commander of the AOR is responsible for force protection OCONUS. **Centralized control of force protection resources and decentralized execution of force protection measures are essential to effectively protect our forces against each threat.** (AFDD 2-4.1, *Force Protection).*

2.2.5. Wing. Wing commanders face **three major force protection challenges: planning** for force protection integration and support as tasked in applicable operational plans, **training** for force protection, and **providing** force protection for those interests within their purview. Air and Space Expeditionary Wings (AEWs) have the added responsibility of accomplishing force protection planning for the units identified to deploy to their location during contingency operations. Wing commanders should integrate force protection personnel into their organizations to establish guidance, program, and manage force protection requirements for the wings. Wing commanders should also appoint a single force protection focal point, usually a Force Protection Working Group, that should be trained and fully versed in force protection issues and methodologies (AFDD 2-4.1, *Force Protection*).

2.3. Health Service Support (HSS) Assets.   All AFMS assets potentially play an important role in casualty prevention. This section discusses <u>some</u> assets in casualty prevention.

2.3.1. Air Force Forces Surgeon (AFFOR/SG). The AFFOR/SG is a member of the COMAFFOR special staff and is the director of USAF health service operations. The AFFOR/SG is responsible for overall health resources management and provides information on health surveillance, risk assessments, sustainment, and other casualty prevention protection issues. AFFOR/SG will ensure preventive medicine personnel are integrated into all aspects of force planning.

2.3.2. Deployed Medical Commander (DMC). The DMC is the commander of the deployed HSS assets and is responsible to the AEW commander for HSS of the deployed population. The DMC oversees health and injury/illness prevention activities and communicates health risks to the AEW commander. The DMC communicates and coordinates with the AFFOR/SG on theater medical support issues and with other joint and combined medical units at the location. The DMC should report DNBI and BI rates to the AFFOR/SG as well as medical intelligence and health risk information gathered at the deployed location.

2.3.3. Preventive and Aerospace Medicine (PAM) Team. The PAM team consists of Aerospace Medicine Specialists, Public Health (PH), Bioenvironmental Engineering (BE), flight medicine personnel, and Independent Duty Medical Technicians (IDMTs). The team oversees basic education and training to prevent disease and briefs commanders on actual threats, safety issues, current illness, and current health trends. The PAM team leader should be considered the functional expert in casualty prevention. The team consists of 3 unit type codes, which can deploy both in phases and simultaneously.

2.3.3.3. Flight Medicine. The Aerospace Medicine Specialist (AMS) serves as the team leader and integrates/directs all aspects of the PAM team. They additionally provide direct health care to flyers and special operations personnel. They also prescribe prophylaxis/pretreatments, evaluate health

screenings, conduct medical maintenance of human weapon systems, and have oversight of human factor issues (i.e., training and implementation, crew resource management, and counter fatigue).

2.3.3.2. Public Health (PH). PH officers serve as Medical Intelligence Officers (MIO). They develop the medical threat estimate and coordinate preventive medicine activities for subject matter experts and medical providers. Specifically, PH oversees food safety/security surveillance, communicable disease control, occupational health education, insect and vector monitoring and control, immunizations policy, as well as enhanced surveillance activities. PH also monitors disease trends for indications of overt or covert use of biological warfare agents.

2.3.3.3. Bioenvironmental Engineering (BE). BE personnel spearhead causality prevention in the force environment through occupational/environmental surveillance of force activities. BE personnel perform an Environmental Health Site Assessment (EHSA) to prevent causalities related to the force environment. BE personnel, as the Nuclear, Biological, and Chemical (NBC) Medical Defense Officer (MDO), prepare the environmental portion of the medical threat estimate, perform NBC and water vulnerability assessments, and recommend operational solutions that minimize the adverse effects of NBC attacks on the force (working with Civil Engineering personnel). BE personnel, in consultation with other health-related subject matter experts, are experts in the health risk assessment of occupational and environmental hazards to include Chemical, Biological, Radiological, and Nuclear (CBRN) hazards. Specifically, BE personnel are trained to recognize these threats, assess the risk to the force, and recommend measures to mitigate or control these hazards

2.3.3.4. Independent Duty Medical Technician (IDMT). The IDMT provides aerospace medicine support, primary care, initial site survey, and limited environmental monitoring for water and food safety, field sanitation, pest/vector control, sewage, and heat stress to units.

2.3.4. Chemical, Biological, Radiological, Nuclear, and High Yield Explosive (CBRNE) Assets. In high threat environments, the PAM team is supplemented by the Medical NBC Team, Biological Augmentation Team and Air Force Radiological Augmentation Team. (See AFTTP 3-42.3, *Health Service Support in NBC Environments* for further information.)

2.3.5. Medical Global Reach Laydown Team (MGRL). The MGRL team is similar to the first increment of the PAM team. The MGRL provides temporary, time sensitive advance team activities for Air Mobility Command (AMC) installations, but is replaced by a PAM team within two weeks. That is, the MGRL team provides HSS for AMC's strategic airlift, rather than to the geographic combatant command. The MGRL should relay all casualty prevention-related information to the next casualty prevention asset or

Unit Type Code (UTC) to arrive at the site.

2.3.6. Life Skills. Life Skills offers preventive interventions for individuals and units-- stress management, counseling services, command consultation, risk communication, spouses' support network, personnel input into rest and relaxation policies and schedules, and critical incident stress debriefings. In deployed settings, Life Skills will operate an outpatient mental health clinic. These services include mental health triage, management of combat/traumatic stress, and psychopharmacological services (most Life Skills providers will not have prescription authority).

2.4. Other Air Force Assets.

2.4.1. Civil Engineering (CE).   CE plays a key role in establishing and operating a base (utilities, base laydown, pest control and other functions) as well as CBNBE passive defense. Close coordination with CE Operations and Readiness Flights is required to ensure casualty prevention concerns are taken into account.

2.4.2. Intelligence. Intelligence plays a vital role in force protection as the primary collection and dissemination point of intelligence. HSS commanders, MIOs and MDOs should establish relationships with the local intelligence division, Armed Forces Medical Intelligence Center (AFMIC), and/or Area of Responsibility (AOR) sources, as appropriate, and ensure they are receiving regular updates. It is especially important that commanders, the MDO and MIO have appropriate security clearances in order to access the appropriate intelligence information.

2.4.3. Public Affairs. Public affairs can be a critical asset in disseminating information and dealing with the media. It is essential that commanders engage with public affairs at the earliest possible time prior to deployment, but never give media interviews without notifying public affairs.   .   Public affairs aids in casualty prevention by providing accurate, appropriate, and timely information to the public.

2.4.4. Chaplain Services. Spiritual counseling and support from the chaplain service is another preventive intervention to reduce the threat of combat and operational stress reactions.

2.4.5. Services. Air Force services personnel provide a critical role both in garrison and deployed.   They manage food service operations, food security, billeting, and mortuary affairs and oversee Morale, Welfare, and Recreation services.

2.4.6. Air Force Office of Special Investigations (AFOSI). AFOSI monitors local activity of groups and individuals. They provide a liaison with local law enforcement functions to aid in investigation of events that may be covert actions.

2.4.7. Force Protection Working Group is a senior level group involving Wing Staff Agencies (Public Affairs, Chaplain, Safety, Judge Advocate), Medical Group, Mission Support Group (Security Forces, AFOSI, CE), Operations Group

(Intelligence) and Maintenance Group. This group evaluates force protection threats from a variety of sources and prioritizes assets to reduce vulnerability. This includes a coordinated risk assessment and communication strategy.

2.4.8.   Family Support Activities.   It is important to communicate accurate information to families in preparation for, during and after a deployment as much as is feasible. This will serve to eliminate fears and promote a sense of safety amongst those family members and active duty members remaining in garrison. Casualty prevention efforts are compromised when the deployed member's family decompensate and/or exhibits dysfunction. In order to assist with minimizing mission compromise, active duty members must feel certain that their family members are being taken care of and that all is well on the home front.

2.4.9. Air Force Institute for Operational Health (AFIOH).

2.4.9.1.   Deployed Site Support.   AFIOH maintains a number of readily deployable highly specialized expert teams capable of supporting AFFOR/SG for any CBRNE incident. The expertise covers the full spectrum— epidemiology, radiological, laboratory, environmental, and occupational health. In addition, the array of consultants can support field study requirements as necessary.

2.4.9.2.   Reachback.   AFIOH provides chemical and radiological analytical laboratory services. The institute is responsible for receiving and analyzing deployment health and environmental surveillance data as well as providing reports to all decision makers, from the field unit level to higher headquarters staff throughout the Department of Defense (DOD). AFIOH also serves as a long-term repository for deployment health and environmental data from Air Force operational sites. Occupational, environmental, and radiological health risk assessments are readily available as is specialized team training. Additionally, AFIOH will provide expert consultation on all CBRNE issues to include the specialized detection equipment.

2.4.10.   Security Forces. Security Forces defend air bases by protecting personnel, resources, and information from threats that could destroy, damage, or compromise the capability of the Air Force to perform its assigned missions. Security forces along with the Services Agency (SVA) are responsible for food security (see Air Force Instruction (AFI) 10-246 [Draft] Food and Water Protection for further guidance on this issue).

2.4.11.   Host Nation/Other Services. HSS is greatly enhanced by its ability to cooperate with host nations. Host nation civilians and military personnel have invaluable information on indigenous diseases, local hazards and other health risks. AFMS personnel cooperate with host nations through programs such as the International Health Specialists program. These specialists are well prepared to interact with host nations to prevent and if necessary, treat casualties. Other services

also have experience and medical intelligence that can assist in preventing casualties. American embassies can provide invaluable information and some assistance in casualty prevention efforts.

Chapter 3

PRE-DEPLOYMENT

3.1. Overview. Pre-deployment casualty prevention is a broad area that encompasses a wide range of activities during a potentially lengthy period of time. Properly conducted pre-deployment casualty prevention efforts are critical to successful deployed operations.

3.2.   Intelligence Gathering.   Casualty prevention, a force-multiplying tool for commanders, is essential throughout the entire health cycle of deployed operations. The actions and activities taken during the pre-deployment phase are time sensitive and cannot always be reproduced later in the cycle of the deployment. For these reasons, commanders at every level must ensure the appropriate pre-deployment measures are administered before leaving home station. These activities are key to the successful execution of deployment operations and the prevention of DNBI and BI.

    3.2.1.   Identifying Preventable Threats and Implementing Countermeasures/Infectious Disease Prevention. Identification of preventable threats is a cross functional skill set involving base level organizations (local Medical Treatment Facility [MTF], Combatant Commander Staff Agencies, Intelligence units and support agencies such as the AFMIC, Central Intelligence Agency, host-nation American Embassy, and the National Imaging and Mapping Agency). Every effort must be made to include all relevant sources to consider both naturally occurring threats as well as manmade threats, particularly those posed by an enemy and or non-conventional adversaries such as terrorists. Use prior food and water vulnerability assessments, after action reports and other timely data at the deployed location to further develop the appropriate assessment and countermeasures. Once all information is assembled, the MIO, in consultation with subject matter experts will develop the medical estimate and countermeasures.

    3.2.2. Determine Need for Additional Data in the Theater of Operations. The repository of health related intelligence is extensive, but during pre-deployment planning, it may become apparent that there is insufficient medical intelligence for a comprehensive Medical Estimate. For this reason, planning should include evaluating the need to send advance specialized teams to gather data on the specific location of the deployment. Planners must understand that due to the time criticality of operations, casualty prevention decisions may have to be made before these theater level teams can assess the most current information. Commanders may have to employ the ORM strategy using available information and be prepared to make adjustments.

3.3. Pre-Deployment Activities.

    3.3.1.   Determine Appropriate Medical Surveillance System and Documentation Systems. Prior to deployment, it is critical for commanders and planners to determine the appropriate surveillance systems. Future decisions and

adjustments are made based upon accurate data. Selecting the appropriate surveillance system becomes crucial. Commanders should develop surveillance systems that are redundant, reproducible, actionable and timely. Such systems will include Global Expeditionary Medical System (GEMS) and Medical Report for Emergencies, Disasters, and Contingencies to document deployment data and, Global Emerging Infections Systems/ Electronic Surveillance System for Early Notification of Community-based Epidemics and Air Force Complete Immunizations Tracking Application to capture baseline data in garrison prior to deployment.

3.3.2.   Assessing the Health Status of the Force. Only healthy and fit members should deploy in support of contingency operations. There is a direct relationship between casualty prevention and health status. For this reason, members will be evaluated for health status using all available resources. As a minimum, home station medical personnel will review the Personal Individual Medical Readiness or the Reserve Component Periodic Health Assessment computerized database and outpatient medical record and ensure deploying personnel are medically qualified to deploy.

3.3.3.   Immunizations.   Immunizations are provided IAW AFJI 48-110, *Immunizations and Chemoprophylaxis*.   When vaccines are available to protect against a validated disease or Biological Warfare (BW) threat, it is DOD policy (DODD 6205.3, *DOD Immunization Program for Biological Warfare Defense*) that personnel will be immunized with sufficient time to develop immunity before deployment to threat areas. Investigational New Drug protocols should be followed, if applicable.   The combatant or theater commander may specify immunization requirements for the deployed location that must be followed.

3.3.4.   Chemoprophylaxis. Chemoprophylaxis for some naturally occurring and biological, radiological, and chemical agents are available and will be issued at the time of deployment IAW theater policy or issued from bulk storage at forward deployed locations. Theater deployers must be trained prior to deployment on the proper use of these preventive measures. Examples include nerve agent pretreatments and medications for the prevention of endemic diseases such as malaria.

3.3.5.   Medical Estimate Operational Health Risk Briefing. The MIO (or designee) will brief deploying forces on the deployed health risk threats including: environmental hazards, endemic diseases, hazardous insects, plants, and animals, NBC threat, and appropriate countermeasures. MIO guidance found in AFI 41-106, *Medical Readiness Planning and Training*. Medical intelligence is available from many sources. The primary source is AFMIC, however, the MIO should also acquire and be cognizant of current operational intelligence of the deployment location. The medical threat briefing should be provided sufficiently early (ideally at the concept briefing, and directly to the troops) to permit deploying troops to pack needed clothing and supplies and to take appropriate actions prior to deployments.

3.3.6.   Pre-Deployment Medical Assessment (DD Form 2795, *Pre-Deployment*

Health Assessment Questionnaire) This assessment must be completed for all deployments that meet the DODI 6490.3 definition of a deployment. For the purpose of joint health surveillance, a deployment is defined as a troop movement resulting from a Joint Chiefs of Staff (JCS)/combatant command deployment order for 30 continuous days or greater to a land-based location outside the United States. The deployed location does not have permanent US military MTFs and may or may not be directly supported by deployed medical forces. Use most current guidance on deployment health surveillance as mandated by DOD instructions, JCS memoranda, and public law. The medical assessment becomes important during pre-deployment planning because the questionnaire establishes the health status of the individual prior to leaving home station. Individual health readiness is a key component of casualty prevention.

3.3.7. Classified Material. Casualty prevention often entails dealing with classified material.   AFMS personnel should ensure personnel have the proper security clearances to access the appropriate intelligence.   In addition, AFMS commanders should consider the need for dedicated classified equipment such as Secret Internet Protocol Router Network (SIPRNET) and Secure Transmission Equipment or Secure Telephone Unit-Third Generation.   AFMS personnel should also be sensitive to changes to intelligence classification. For example, a PH officer may report some information to intelligence that is subsequently made classified because of its sensitive nature.

3.4. Total Environmental and Occupational Health Pre-Risk Assessment.

3.4.1. Environmental Threat Estimate. BE and PH should gather intelligence on the medical threats associated with operating at the deployed location. Intelligence gathering should at least explore the ambient environment (air, soil, water), specific location, and availability/suitability/vulnerability of local food and water.

3.4.2. Potential Threat Identification. MDO and MIO must consider and research the ambient threats potentially present at the deployed location and make recommendations to the DMC and line commanders to ensure proper resources are deployed/in-place   and   that   policies   regarding   operations   and   personal actions/behaviors are implemented to manage the risk of the hazards.

3.4.3. Site Specific Environment: There are operational risks associated with living and operating from a specific location. The amount of information available varies dramatically with the degree of national industrialization.

3.4.3.1. Potential Threat Identification.

3.4.3.1.1. Water Sources.   The potable water source is critical to sustained operations. The primary source of drinking water is typically bottled water until the safety of local water resources can be determined. Bottled water, however, must also be tested.   Local vendors have

attempted to sell "contaminated" bottled water to US forces in recent contingencies. Research should be conducted to determine the source of local water (well, surface, desalinated seawater) and vulnerability to pollution and/or covert contamination. Water treatment options should be developed in partnership with CE and an interim drinking water plan may need to be in-place. If surface water is to be used, ensure USAF or coalition operations do not contaminate potential water sources. (Section 4.4.2.2. contains further information on Bottled Water sources).

3.4.3.1.2.   Toxic Industrial Chemicals (TICs)/Toxic Industrial Materials (TIMs). The presence of local activities associated with manufacturing, mining, or agriculture can present both DNBI (incidental and accidental releases) and BI (enemy action) threats. Efforts should be made in site selection to minimize the risk of TICs/TIMs by optimizing locations, but often tactics and expediency dictate the use of a location where significant risk/threat still exists.

3.4.3.1.3. Ongoing Operations (Pollution). Ongoing manufacturing and mining produces emissions and effluents.   The effects of airborne contamination are difficult to counter, but the effects should be considered. Countermeasures should be developed for water and soil contamination.

3.4.3.1.4. Past Operations (Pollution). For rapid deployments, locations of opportunity are often used. These frequently include existing airfields, both commercial airports and host nation/seized bases.   Commercial airports are often in industrial areas with the land occupied by our forces adjacent to the airport.   The activities and practices of both airfield operations or past industrial operations may have contaminated the site. This should be researched before deployment, to optimize site selection and to serve as the basis for a pre-deployment countermeasures plan.

3.4.3.1.5. Catastrophic Event. Catastrophic release of TICs/TIMs or CBRN agents can be either accidental or a result of enemy action. The worst-case scenarios for either are usually equivalent. Given intelligence on local manufacturing or TIC/TIM storage/distribution, estimates of the effect of such a release can and should be modeled prior to deployment. In addition to the sources listed for estimating the threat presented by the ambient environment, research any site surveys, historical or National Imagery and Mapping Agency images, and work with wing AFOSI to access other intelligence sources.

3.5.   Deploying Mission Support and Flight Operations (Occupational Health). Many operations that are conducted while in garrison are similar to those accomplished in a deployed setting, although there may be differences in facilities, operations tempo, and other parameters that would impact the overall exposure and risk. Effective risk

management strategies for deployed operations should be developed during routine, in garrison ORM, accounting for potential differences between each working environment.

3.5.1. Deployed Equipment and Materials. Based on the equipment and materials on the UTC of an organization, expected hazards can be identified and assessed. If administrative controls are necessary, this should be provided to the supervisor/commander for inclusion in training and guidance. If Personal Protective Equipment (PPE) is expected to be required for deployed operations, it should be included in the appropriate UTC allowance. Supervisors/commanders in consultation with BE personnel should consider the unique exposure circumstances presented by working with/handling deployed equipment and materials of host-nation origin. These considerations should include high asbestos and other TIC/TIM content of commonly used terms, which may prompt worker requirements for additional PPE.

3.5.2. Facilities and Engineering Controls. Activities normally conducted in a dedicated facility may be performed on the flightline or in a common use hangar when deployed. Additionally, engineering controls available in garrison will likely be unavailable in deployed location. These factors may drive the need to use PPE for deployed operations when none are necessary in garrison. This need may drive equipment, training, and medical monitoring not required in garrison operations.

3.6. Risk Communication. Risk communication involves communication essential to casualty prevention, and the pre-deployment phase is a prime opportunity to uncover potential threats and vulnerabilities to the force and suggest preventive solutions. The HSS community must communicate these potential risks to commanders, supervisors and personnel pending deployment as well as to outside agencies such as the media.

3.6.1. Subject Matter Experts. In all cases, the risk communicator should be the subject matter expert for transmission of threat, vulnerabilities and recommended solutions.

3.6.2. Risk Communication Plan. For large scale events, develop a risk communication plan. The risk communication transmission will provide threat and vulnerabilities information and recommend solutions. The plan should be exercised as necessary.

3.6.3. Pre-Exposure Preparation (PEP) Training. PEP training is a preventive approach to help individuals prepare for and cope with potentially traumatic events. It is useful for anyone facing exposure to a potentially traumatic event and promotes optimal performance. First responders should attempt to get this training prior to exposure to a traumatic event. This training can be just-in-time training but will be included as a separate pre-deployment briefing IAW AFI 44-153, Critical Incident Stress Management, attachment 8, whenever other pre-deployment briefings are provided.

3.6.3.1. PEP training emphasizes the normalcy of feeling stress in abnormal situations. Training focuses on practice of effective approaches to stress

management and the avoidance of ineffective approaches. The training, provided by the Critical Incident Stress Team, is conducted when exposure to potentially traumatic events is expected (e.g., body retrieval, or a significant disaster with loss of life). Material for conducting pre-exposure preparation training is contained in AFI 44-153.

3.6.3.2. PEP training can also be used to prepare an entire community when a potentially traumatic event, such as a mobilization deployment, can be predicted.

3.6.3.3. When PEP training is not possible and when a potentially traumatic event has occurred, individuals not directly involved in the event can be given general educational meetings alerting them of the normal reactions to trauma.

Chapter 4

DEPLOYMENT

4.1. Overview. Casualty prevention is an ongoing activity during all phases of military operations. In this section, specific casualty prevention steps are given during five phases of deployment—open the airbase, establish the airbase, operate the airbase, sustainment, and base closure.

4.2. Key Personnel. IDMTs, Squadron Medical Elements (SMEs), PAM teams, and MGRL teams are the primary actors during deployment. PAM and MGRL teams are specifically intended to identify, monitor and prevent DNBI. PAM and MGRL teams differ in regards to operational control, staffing, and duration; operationally, they are not interchangeable. The geographic combatant commander has operational control of PAM teams. MGRLs remain under the operational control of the United States Transportation Command USTRANSCOM commander.

Figure 4.1. Steps to Open the Airbase.
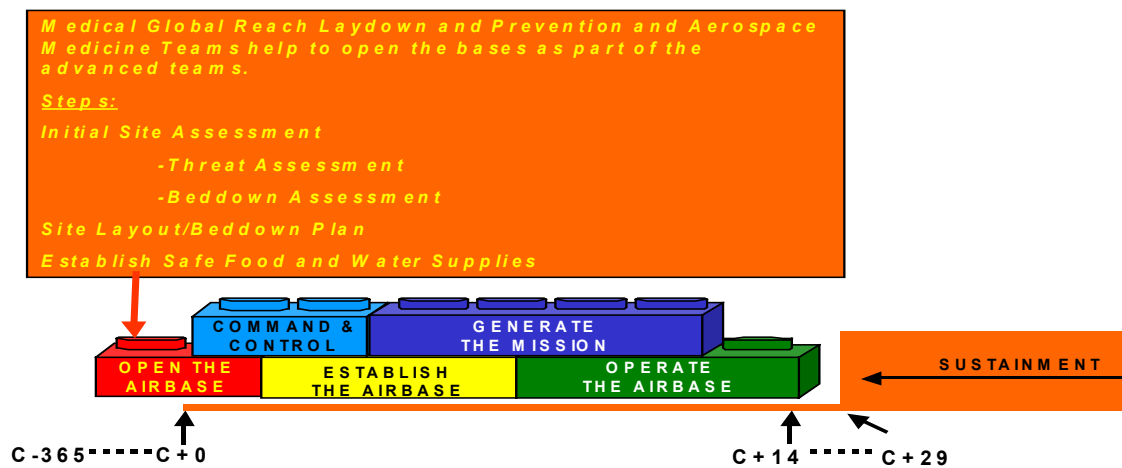
4.3. Open the Airbase (Site/Airfield Survey). Environmental threats to forces are the primary concerns during this phase of deployment. The task of opening the base begins with the site or airfield survey. The survey consists of two phases—Phase I, Initial Site Assessment and Phase II, Site Layout. Phase I is a reconnaissance mission to determine site suitability/feasibility. Phase II, Site layout, or bed-down (open the base), planning occurs after the site has already been chosen for a particular mission. (See Figure 4.1).

    4.3.1. Phase 1-Initial Site Surveys. Normally, COMAFFORs organize and conduct initial site surveys. HSS personnel can and should access the latest site survey by contacting the geographic combatant command AFFOR/SG representative and the USTRANSCOM AFFOR/SG. The timing and scope of site surveys depends on world

circumstances.   In the deliberate planning mode, COMAFFORs conduct and periodically update site surveys. In the Crisis Action mode, the site survey may occur simultaneously with deployment.   Team composition depends on the amount of information/intelligence that is currently available for the site.   HSS has key roles in the threat and beddown assessments. Normally, AMS, PH and BE personnel possess the best skill sets for health and environmental threat and beddown assessments and serve as the HSS members on these teams.   The following list details the four functions of the initial survey, and the corresponding subject matter experts and team members**.**

4.3.1.1. Pavements Evaluation – CE.

4.3.1.2. Airfield Suitability Survey – Airfield Operations.

4.3.1.3. Threat Assessment – Security Forces, HSS, and AFOSI.   HSS representative conducts an initial area health threat assessment for endemic disease, and initial assessments of local food and water sources.   Threat assessments also include evaluation of local industries to determine the hazards associated with a release of TICs/TIMs during deliberate targeting or collateral damage.   Host nation industrial hazards can present serious danger to U.S. forces if their infrastructure is damaged—either by deliberate targeting or collateral damage.   They can also pose a less immediate danger if the base is downwind or downstream.

4.3.1.4.   Beddown Assessment – CE, Contracting, Petroleum Oil and Lubricants, Munitions/Safety Communications, Logistics Plans, and HSS. The HSS Beddown assessment must address the following:

4.3.1.4.1. Adequacy and Potability of Available Water Sources. Use the water consumption planning factors from Air Combat Command Field Manual 00-1 "Bioenvironmental Engineering Environmental Field Manual" to determine the adequacy of available sources. If possible, the survey team should collect source water samples to determine potability. HSS personnel should also assess sources of pollution that could impact water sources—particularly during a rainy season—such as, landfills, agriculture/livestock activities, and industrial and sewage discharge.

4.3.1.4.2. Drainage and Geology. HSS team members should determine if the proposed site is in a flood plain, a natural drainage basin or an area with a high water table. To facilitate camp drainage and soakage pits, the site should support good percolation. In addition, check for large quantities of rock, which will make it more difficult to dig latrines, drainage pits and interment sites. Subsoil that consists largely of clay or sand will not provide stable building platforms.

4.3.1.4.3.   Environmental Health Site Assessment.   The HSS team members should perform as much of the "reconnaissance and interview" step as possible during the initial site survey.   The team should identify "areas of concern" where exposure scenarios are likely, such as when there are hazardous/radiological waste burial sites, mine tailings, and soil/ground water plumes.   This information is part of the "preliminary hazard assessment."

4.3.1.4.4.   Sewage/Waste Disposal.   The team should note the availability, capacity and condition of any available sewage/waste disposal systems.

4.3.1.4.5.   Local Health Service Support Capabilities. Assess capabilities of local PH, mental health and medical care facilities (as well as other services in the area) for availability, accessibility and standards of care practiced.

4.3.1.4.6.   Food Source Approval.   When food sources must be procured locally at the deployed location, contracting in coordination with services and Public Health will help ensure only approved food sources are procured/consumed.

4.3.1.5. Aeromedical Evacuation (AE) Capabilities. Determine the ability to access tertiary health care in a timely manner, and return injured personnel to duty.   Early mobilization of AE assets will improve casualty prognosis. Consider distance from tertiary facility and time required for AE to deliver casualty under urgent conditions. Critical Care Aeromedical Transport Team support will also factor into AE considerations. Also consider airfield/landing strip capabilities (fixed wing vs. rotary wing support) and availability of Mobile Aeromedical Staging Facility capabilities. Also consider the AE transport needs of contaminated and infectious patients. (See AFTTP 3-42.5, *Aeromedical Evacuation.)*

4.3.2.   Phase 2-Site Layout/Advance Team (ADVON). The second phase of the site survey is usually conducted by a wing or weapon system ADVON team. The survey is for the purpose of bedding down a particular mission or group of forces. The beddown plan, which includes site layout, is the primary product of this phase. HSS has a vital role in this phase since site layout can have a tremendous impact on human health and performance. The team should continue conducting the EHSA, along with infectious disease and sanitation evaluation to advise base planners and ensure site layout minimizes the number and severity of potential exposure pathways. Casualty prevention efforts for the ADVON team include, but are not limited to the following:

4.3.2.1. Water Source Selection and Treatment Requirements. To assist in source selection and treatment requirements, HSS personnel (normally BE)

should perform initial screening using available field equipment. Reference interim AFMAN 48-138 "Sanitary Control and Surveillance of Field Water Supplies" for procedures and maximum contaminant limits.

4.3.2.2. TICs/TIMs. Location of local industrial facilities and any associated air emission plumes may affect base personnel in their work or living environments. Information on prevailing wind patterns will help determine the best locations for work, dining and living site layout planning. Also consider locations of base and local nation Hazardous Material (HAZMAT) storage sites, hazardous waste and solid waste disposal sites and other landfill sites when planning work, living or dining facilities. As the mission allows, PAM/MGRL team members should develop the sampling plan, and collect vital samples to assess potential exposure locations.

4.3.2.3. Billeting And Dining Facilities. HSS personnel should ensure billeting and dining facilities are an appropriate distance from lavatories, standing bodies of water and other hazards, such as camp boundaries, and flightline noise hazards. HSS personnel should also ensure there are an appropriate number of lavatories and hand washing units per capita, and that hand washing facilities are immediately accessible at lavatories and dining facilities. They should also conduct site surveys to ensure conditions are appropriate for food storage, and assist CE in designing gray water storage and treatment, and septic disposal. HSS should influence site layout to create billeting areas conducive to good rest. Consider noise and traffic flow and group workers by shifts to minimize interruptions.

4.3.2.4. Siting Medicine Facilities. Ensuring ease of access and increased availability enhances the probability that individuals will seek care when appropriate. In determining the location of MTFs consider the proximity to primary targets. MTFs should be close enough to work and billeting areas to be easily accessed, but distanced to adequately provide noncombatant safety. Consider the potential impact of hazardous noise exposure and speech interference levels which might interfere with health care delivery. There should be an efficient and safe casualty collection/flow across NBC and defense sectors. A plan to include tactical communication support or have it located nearby will be necessary.

4.3.2.5. Mortuary Facilities. In coordination with services personnel, PAM/MGRL personnel assist in siting mortuary facilities. In addition, the NBC MDO must assist in developing procedures for the temporary interment of the deceased contaminated with NBC agents, and physicians must help develop procedures for death certificate completion in these circumstances.

Figure 4.2. Steps to Establish the Airbase.
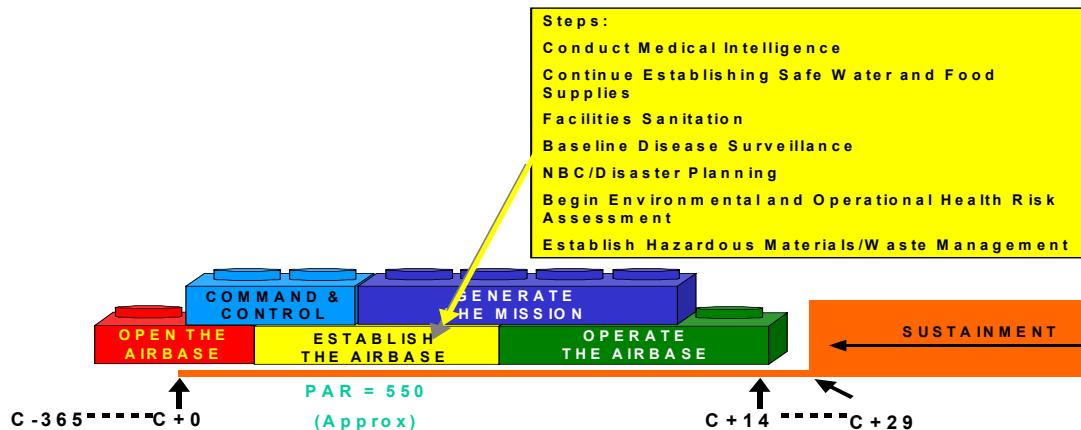
4.4. Establish the Airbase.

4.4.1. **Medical Intelligence.** Medical Intelligence coordinates with Flight Medicine, BE, AFOSI, Wing Intelligence Officer, AFMIC and Higher HQ's personnel to identify new or changing threats and recommend Force Protection interventions. Every effort should be made to include all sources of intelligence, both operational and medical. The MIO should routinely brief commanders and deployed personnel on changes.

4.4.2. **Establishing Safe Water and Food Supplies.**

4.4.2.1. **Water Distribution Systems.** BE personnel must assist CE in determining the treatment requirements and assisting in distribution system design.

4.4.2.1.1. After drinking water treatment is in place, BE personnel must certify the "finished" water for consumption. Finished water must comply with the maximum contaminant levels in AFMAN 48-138. Normally, these standards will be more stringent than those published in the host nation Final Governing Standards (FGSs), but BE should verify this fact, and strive for compliance with any FGSs. BE personnel may use available field techniques for chemicals, and a presence/absence test for biological contamination to make initial water quality/potability determinations. However, they must submit additional samples to an approved analytical laboratory for eventual verification, and document the laboratory results in GEMs. BE

personnel must also report water monitoring results in accordance with the AFFOR/SG directions.

4.4.2.1.2. CE personnel must sanitize water storage tanks, trucks and buffaloes before placing them in operation. Reference Air Combat Command Field Manual 00-1, *Bioenvironmental Engineering Environmental Field Manual* for sanitization procedures. BE personnel should verify adequacy of sanitation.

4.4.2.1.3. Throughout the selection and design process, BE personnel should consider the vulnerability of the water system components to natural disaster, sabotage/terrorism and conventional attack. As soon as possible, BE personnel conduct a Water Vulnerability Assessment (WVA) of the entire system using the Air Force Institute Occupational Health (AFIOH) "Water Vulnerability and Risk Assessments for DOD Potable Water Assets" [draft] Aug 02.   BE personnel will report the results of the WVA to the installation force protection working group/security council.   The Installation Security Council should design and implement measures to reduce identified vulnerabilities, and track the status of vulnerabilities, periodically.

4.4.2.2. Bottled Water. Contracting must not locally purchase bottled water unless the bottled water is on the DOD Directory of Approved Sources maintained by the Army Veterinary Services. If no locally approved source is available, an approval inspection of the production/bottling facility is accomplished. If an approval inspection is necessary, HSS personnel will consult the AFFOR/SG staff, using the appropriate chain of command. The AFFOR/SG staff will coordinate the inspection with embassy officials, using the appropriate chain of command, so embassy officials can ensure compliance with international agreements. If the AFFOR/SG instructs local BE personnel to perform the inspection, they should use Military Standard 3006, *Sanitation Requirements for Food Establishments* (Army Central Command), and test the bottled water prior to consumption. AFMAN 48-138, *Field Water Surveillance* contains testing procedures and maximum contaminant limits for bottled water.

4.4.2.3.   Food Procurement. PH personnel should work with the Base Contracting officer and US Army Veterinary services (when available) to inspect and approve local sources for procurement of food. If US Army Veterinary services cannot perform local approval inspection for a food source, Air Force PH will perform local approved source inspections and maintain a local approved source listing.   Routine surveillance of these sources will be conducted to ensure a continuous supply of safe food products.

4.4.2.4.   Food Vulnerability. PH personnel should assess the threat of intentional contamination to the food supply using available intelligence

sources (i.e., AFOSI data, SIPRNET). These assessments should be part of a focused analysis of the installation's vulnerability and potential mitigation measures. Food surveillance should be enhanced with any increased threat. Food vulnerability assessments should be coordinated with other applicable agencies (services) and updated/reviewed as needed by the force protection-working group. Specifically, Services Agency (SVA) will apply Operational Risk Management (ORM) techniques to determine the acceptability of contracting/hiring host-nation (local) workers to serve as food handlers for the installation. In such cases where the decision includes hiring local food handlers, SVA will coordinate with SFS and AFOSI on conducting background security checks before such individuals are hired and will also coordinate with Public Health on food handler training.

4.4.3. Disease Surveillance. Collect baseline and ongoing disease surveillance data to establish disease surveillance to identify covert biological attacks or endemic disease outbreaks. Part of baseline data includes maintenance of list of deployed personnel to determine rates of disease and illness. Report DNBI as outlined in Enclosure C of the JCS Memo, 1 Feb 02, "Updated Procedures for Deployment Health Surveillance and Readiness." PH personnel will ensure reportable medical events (Enclosure D, JCS Memo, 1 Feb 02) are reported and will conduct epidemiological investigations IAW Air Force guidance and clinical indications. PH personnel will coordinate with local health authorities to determine local disease patterns and outbreaks. Intercession strategies will be targeted according to the disease patterns and outbreak information taken as a whole from both DOD and local data. PH will forward information gathered about disease patterns and outbreaks through channels to AFMIC (so others deploying to this area are aware of updated medical intelligence).

4.4.4. Planning.

4.4.4.1. NBC Defense Planning. During this phase of deployment, NBC MDOs should coordinate with CEX personnel to establish the NBC reconnaissance and detection plan, and evaluate the impact of NBC sectors to casualty collection and transport. They should also coordinate with CEX on proposed contamination control area sites. (See AFTTP 3-42.3, *HSS in NBC Environments* and AFMAN 10-2602, *Nuclear, Biological, Chemical, and Conventional Defense Operations and Standards* for additional information.)

4.4.4.2. Disaster Response Planning. PAM/MGRL personnel must cooperate with Security Forces, CEX and CEF personnel to develop HSS annexes for base response plans, including the base Disaster Response Plan and the Base Support plan. In addition to the considerations listed in AFI 10-2501, *Full Spectrum Threat Response,* PAM/MGRL personnel should plan for establishing quarantine protocols and areas in the event of an infectious disease episode, and caring for civilians, prisoners of war, and/or refugees.

4.4.5.   Continue EHSA.   PAM/MGRL personnel should update the EHSA sampling plan begun in the site layout phase, and collect samples as the mission allows. Prioritize sampling on the basis of risk.

4.4.5.1.   Morale, Welfare and Recreation. PAM/MGRL personnel assess the health risk of offsite establishments (normally PH) and swimming areas (normally BE). These subject matter experts will advise the deployed services squadron and Armed Forces Disciplinary Control Board.

4.4.5.2.   Define Operational Activities and Exposure Groups. The health threat from force activities becomes an emphasis during this phase. To begin assessing and controlling this risk, PAM/MGRL personnel should conduct a "walk through" to identify, inventory and classify operational activities and exposure groups. Exposure groups consist of individuals who will receive similar operational and environmental exposures during the course of their duties. Activities are operational tasks and processes. Normally, individuals in an exposure group perform the same operational tasks and processes. PAM personnel will enter this inventory into the Theater Occupational Model (TOMs) module of GEMS. PAM/MGRL personnel will categorize exposure groups by risk and prioritize them for exposure assessment.

4.4.5.3.   Hazardous Material Management and Disposal.   In some situations, hazardous materials may be procured locally at the deployed location. In these situations, BE personnel must work closely with contracting personnel to purchase materials with the lowest degree of associated risk. If hazardous materials must be obtained, the supplier should provide the Air Force with the constituents of the product at a minimum. Though AFI 32-7086, *Hazardous Materials Management Program*, is intended for "in garrison" use, it can serve as a useful guide for ensuring safe management and distribution of hazardous materials in deployed settings. The environmental and occupational health assessment process, described in the "operate the base" section of this chapter includes evaluation procedures for hazardous material use. BE personnel must also work with CE personnel to ensure potentially hazardous waste is stored safely, and disposal will not adversely impact environment.

4.4.5.4.   Accessing Local Medical Care. Establish cooperative local care agreements, communications, surveillance standards, terms for health care assistance and reimbursement as appropriate, and then maintain liaison with these providers.

Figure 4.3. Steps to Operate the Airbase.

4.5.   Operate the Base. Once the site has been established and secured, the HSS personnel will move into a sustained phase of operations to continue prevention of casualties. Many of the functions initiated during the beddown period will be maintained throughout this phase. (See Figure 4.3.)

4.5.1. **Facility Sanitation.** PH personnel will conduct routine surveillance of all food facilities on base to prevent food borne illness disease and outbreaks. All aspects of food safety/security, from the receipt of food to serving of meals, should be evaluated. Adherence to the United States Food and Drug Administration Food Code, food handler training, and food storage and facility sanitation should be monitored and findings entered in the GEMS database.

4.5.2. Environmental and Occupational Health Assessment.

4.5.2.1. Occupational Health. BE personnel will evaluate the health threats associated with force activities and provide commanders appropriate mitigative strategies to minimize risk. Though AFMAN 48-145, *Occupational Health Program* is directed at "in garrison" occupational health surveillance, its risk

assessment process is applicable to deployed settings as well.   BE personnel should adhere to AFMAN 48-145 as closely as possible.

4.5.2.1.1. After completing initial health risk assessments, BE personnel should establish a process to routinely review the currency of the health risk assessment. Factors which may change the risk assessment include changes in force conditions, changes in vulnerability to attack or sabotage, change in mission or weapon system, significant changes to operations, and turn-over of personnel due to Air and Space Expeditionary Force (AEF) rotations.

4.5.2.1.2. Due to turnover of personnel during AEF rotations, if mission allows, routine surveillance of category 1 and 2 workplaces (as identified in AFI 48-145, Occupational Health Program) should be conducted during each rotation. Emphasis should be placed on ensuring conditions are the same as during the previous AEF rotation. When possible, this should be done toward the beginning of the rotation.

4.5.2.1.3. Maintenance of accurate similar exposure group personnel rosters is essential for ensuring occupational, environmental, and health surveillance exposure data can be linked to each individual's medical record as required by DOD/Health Affairs policy as delineated in DODI 6490.3.

4.5.2.2.   Environmental Health. The health risk assessment process also applies to the interpretation of EHSA and other environmental data.   BE personnel should continue to execute the EHSA and update the conceptual site model as the mission allows. Prioritize sample collection on the basis of risk.

4.5.2.3. **Data Management**. GEMS will be used for data management. See Chapter 6 for more details. Both acute and chronic health risk information should be entered into GEMS.   GEMS enables the AFMS to meet the requirements in Presidential Review Directive 5 to establish a longitudinal health record that includes environmental and occupational health exposures. All environmental and occupational health exposures must be tied to an individual.

4.5.3. Available Standards and Guidance.

4.5.3.1.   AFI 48-145, Occupational Health Program is the primary occupational health surveillance guidance. Much professional judgment is required to determine applicable occupational and environmental health standards and guidelines. Army Technical Guide 230, *Chemical Exposure Guidelines for Deployed Military Personnel*, should be used as a reference for occupational and environmental exposure with the following exceptions:

4.5.3.1.1. Do NOT use the chemical agent warfare exposure standards; instead use the values posted in AFMAN 10-2602, *Nuclear Biological, Chemical and Conventional Defense Operations and Standards*, and the procedures established in Chemical Warfare Agent Health Risk Assessment interim guidance published by AFMOA for assessing health risk.

4.5.3.1.2. Do NOT use the drinking water guidance; instead use draft AFMAN 48-138, *Sanitary Control and Surveillance of Field Water Supplies*.

4.5.3.2. The Overseas Environmental Baseline Guidance Document (OEBGD) and FGS usually do not apply to deployment locations, although they may if forces are deployed at a fixed location. The OEBGD and FGS can be used as a guide, as operations allow. Questions on applicability of these documents should be referred to the AFFOR/SG.

4.5.3.3. Other sources of occupational and environmental health standards may be used if Army TG 230, *Chemical Exposure Guidelines for Deployed Military Personnel* does not address them. These include occupational exposure guidelines established by Air Force Occupational Safety and Health (AFOSH) Standard 48-8. A great deal of professional judgment is required when applying these guidelines, and BE personnel must ensure they take into account operational needs when using them.

4.5.4. Monitoring and Sampling Plans/Procedures.

4.5.4.1. BE personnel shall establish monitoring and sampling plans and procedures for environmental and occupational health surveillance.

4.5.4.2. For drinking water, a routine surveillance schedule should be established based on ORM principles, and AFMAN 48-138.

4.5.4.3. When sending samples to other laboratories, ensure a chain of custody is established for the samples. If the AFFOR/SG has not established procedures, use DD Form 1911, *Materiel Courier Receipt*.

4.5.5. Epidemiological Surveillance. PH personnel will conduct disease and syndromic surveillance on a daily basis. An effective tool for identifying and targeting health hazards is a robust health surveillance and Disease Non-Battle Injuries (DNBI) monitoring and reporting system. PH personnel will educate all providers on the importance of compliance with the theater surveillance system and ensuring accurate patient encounter information.

4.5.6. Prophylactic Care Monitoring. Preventive programs initiated during pre-deployment will need ongoing checks and maintenance supervision. Screen

arriving personnel to ensure they received adequate pre-deployment preventive measures, including malaria chemoprophylaxis, prophylactic medications, immunizations, and gas mask quantitative fit testing.   Correct deficiencies as indicated.   In addition, monitor storage, and if directed by combatant commander, distribution, administration, and the Force Health Protection Prophylactic Prescriptions.

4.5.7. Personnel Health Risk and Prevention Education. Prevention of disease and injury is enhanced through persistent education efforts.   Threat briefings for all personnel and commanders should be a routine process and should at a minimum include the following:

4.5.7.1. Local health threat briefings for all personnel at inprocessing

4.5.7.2. Additional squadron or unit briefings as threat or need dictates

4.5.7.3.   Wing or Operations Commander Health Status Updates should include:

4.5.7.3.1. Up-to-date daily and weekly flying Duty Not Including Flying status reports. (Assessment of effect on mission and recommendations as necessary.)

4.5.7.3.2. Duty days lost due to DNBI for flying and non-flying personnel. (Assessment of trends, effect on mission and recommendations.)

4.5.7.3.3. Off site restrictions/risk assessment

4.5.7.3.4. Heat and cold stress procedures, including work/rest cycles and hydration standards.

4.5.7.4. Injury Susceptibility/Prevention. In addition to the training listed above, encourage personnel to apply ORM to activities—both duty-related and recreational.   Determination of injury risk requires individual risk assessment. Personnel should consider pre-existing injuries, activity risk, and familiarity with the activities. Provide personnel information about fatigue and stress mitigation, and train them to consider these factors.

4.5.8. Flight Medicine Issues.

4.5.8.1. Crew Rest. In coordination with the Operations Group Commander (or equivalent), establish requirements and restrictions and monitor for implementation and adherence to requirements.

4.5.8.2. Crew Resource Management.   Monitor effectiveness of crew resource management by direct observation (flight surgeons) when possible. Evaluate, educate, and reinforce through continual training and input to aircrew briefings.

4.5.8.3. Counter-Fatigue Program. Flight Medicine personnel will monitor the status of pre-deployment testing for pilots.   The Fatigue Avoidance Scheduling Tool is useful to monitor operational use of counter-fatigue medication (go/no-go pills) administration and usage. The AFFOR/SG will likely have specific reporting requirements for go/no-go pill reporting. Flight medicine personnel work with commanders to develop work/rest cycles and crew rest requirements.

4.5.9. Detachment Oversight. Monitor detachment IDMT status as indicated. Conduct detachment site visits with appropriate frequency to ensure training and oversight of medical care provided by IDMTs.

4.5.10. Reachback Support.

4.5.10.1. The AFFOR/SG will act as the focal point for reachback support, and can provide (or arrange for) technical consultation as well.

4.5.10.2. If a theater laboratory is established, BE personnel should become aware of the laboratory's capabilities and use the laboratory when local analysis is not possible, or additional analysis is required.   The laboratory should also be used for technical consultation on conducting health risk assessments beyond the scope of installation preventive medicine personnel.

4.5.10.3. If a theater laboratory is not available, the AFFOR/SG will establish procedures for using service level organizations such as AFIOH or US Army Center for Health Promotion and Preventive Medicine (USACHPPM). These organizations can also provide technical consultation, and may be called on for focused health risk assessments.

4.6. Sustainment.

4.6.1. Ongoing Activities.

4.6.1.1. Team Aerospace personnel should continue to routinely review the currency of both the occupational and environmental health risk assessments, as described in paragraph 4.5.2.1.1. and 4.5.4.1 above. DNBI indicators could also initiate additional sampling.

4.6.1.2.   For drinking water, a routine surveillance schedule should be established to include random sampling, as an effort to defeat sabotage.

4.6.1.3. For air and surface water, (seasonal changes, etc.), enough data should be collected to ensure seasonal variations are accounted for. Once a baseline is established, additional sampling is not required unless significant changes occur.

4.6.1.4. For soil, there is no need to conduct routine surveillance unless there are significant events such as hazardous material spills, discovery of buried waste, etc., or other indications.

4.6.2. Data Management. For most units, GEMS will be used for data management.

4.6.3. Hazardous Material Management. During the sustainment phase, the deployed installation may establish a hazardous material management process. See reference AFI 32-7086, *Hazardous Material Management* for more details on the role of BE personnel in this process.

4.6.4. Life Skills Support Center.

4.6.4.1. Establishment of Life Skills Support Center (LSSC). The establishment of the LSSC should be part of risk communication efforts. The team will rapidly deploy and set up within 24 hours after arrival. The team chief will meet with the DMC upon arrival at the deployed location and coordinate an initial meeting (within the first week) with Wing commander via the DMC. The team will begin their initial assessment after setup is complete to determine the needs of the deployed location and provide this assessment information to the leadership. The Life Skills team will serve as a consultant to the Wing and Medical Group commanders on the emotional readiness of the deployed forces. The team will provide a variety of outreach and prevention services, and early detection and intervention services.

4.6.4.2. Family Support Issues. Recognition of the importance of family or personal stressors and their effect on individual performance and safety is paramount. Early recognition of these factors may be key in limiting their effects. Prevention begins prior to deployment (see Chapter 3) but ongoing care of family and individuals' needs should be supported throughout the deployment.

4.6.4.3. Critical Incident Stress Management. Many types of events have the potential to produce individual and community traumatic stress. It is Air Force policy to provide Critical Incident Stress Management (CISM) preventive services to unit and community members whenever possible before potentially traumatic events occur. Similarly, CISM services will be provided after traumatic events to help those who have experienced the events. In each case, the goal is to assist those affected by traumatic events to cope with the normal stress reaction in an effective manner. These actions are intended to minimize the impact of exposure to these events and prevent or mitigate permanent

disability, if possible. The deployed Wing commander is responsible to ensure that CISM services are available to deployed personnel.

4.6.5. Food Laboratory Analysis. PH will develop and refine a food monitoring and testing strategy.   Laboratory personnel should ensure chain of custody procedures for samples suspected to be from a BW incident. Reports of suspected BW events should be made in accordance with AFFOR and theater reporting requirements.

4.7. Base Closure/Redeployment. As the base closure/redeployment plan is initiated, it is important for HSS to assess the effects of the base activities on the local environment related to possible hazardous exposures and any other health risks identified during the deployment. Establish continued follow up liaison between HSS and local healthcare community. Set up avenues for continued cooperative surveillance and reporting of infectious diseases.

Chapter 5

RE-DEPLOYMENT

5.1. Overview. Casualty prevention continues to be an important consideration during re-deployment.   Commanders should not underestimate the significant health threats associated with redeployment.

5.1.1. Ongoing Activities at the Deployed Medical Element: The DMC needs to continue the ongoing health surveillance program.   The DMC must ensure post-deployment health assessments are completed by all deployers prior to leaving the AOR.   Instruction on required follow up for exposures and the deployed medical record returns with the individual or unit. Documentation of all exposures, medical interventions, and use of prophylaxis or antidotes in the individual's deployed medical record is critical. Use of the GEMS is invaluable to maintaining an exportable automated record of the individual and collective health events.   All deployed medical encounter documentation should be printed and placed in the deployed medical record for inclusion in the patients permanent medical record at home station.

5.1.2. Completing the Post Deployment Health Assessment (DD Form 2796, *Post Deployment Health Assessment Questionnaire*).

   5.1.2.1. These assessments must be completed for all deployments that meet the Joint Chief of Staff (JCS) definition of a deployment.

   5.1.2.2.   At the deployed location, a provider (physician, nurse practitioner, physician assistant, or IDMT) administers this assessment to all redeploying personnel within 5 days of redeployment. All documentation is placed in the deployed medical record and is returned to home station by the redeploying medical element, troop commander or individual member in the event the member does not return as part of a troop movement. Regardless of how the deployed medical record returns to home station, it is critical the deployed medical element makes sure it returns intact to the Force Health Management element of the PH section.

5.1.3. Continue Surveillance Efforts: Up-channel surveillance data to the DOD central data repository as specified in *Joint Policy Memorandum on Deployed Occupational Health and Environmental Health Surveillance.* To the extent possible, surveillance activities, both environmental and epidemiological, should continue for as long as the potential exists to utilize the deployed location for future operations.

5.1.4. Redeployment of Equipment and Aircraft: Redeploying equipment and aircraft may have special considerations, depending on the environment where the assets were used or transited.   Any assets used in locations where chemical,

biological, or nuclear weapons (especially dirty bombs) were employed by the enemy, will need to be decontaminated before they are redeployed. Additionally, equipment or aircraft located in areas where there are indigenous infectious diseases that can be carried by equipment or aircraft (to include pests/produce/plant diseases) will also need to be decontaminated before they are redeployed. The AOR commander is the proper source for instructions for the redeployment of equipment and aircraft.

5.2. Risk Communication.   The reconstitution phase of deployment is critical to the reunification of active duty members with their families. Reunion briefings/classes should be offered to the family of deployed members prior to their return and to deployed active duty members prior to their return home. Upon return to home station, the couple/family should be offered a follow up reunion session along with any children in the family (see "Communicating in a Crisis: Risk Communication Guidelines for Public Officials" [2002]), U.S. Department of Health & Human Services Substance Abuse and Mental Health Services Administration, Rockville, MD [http://riskcommunication.samhsa.gov/index.htm.] for further information).

5.3. Critical Incident Stress Management (CISM).   The deployed Wing/CC is responsible to ensure that CISM services are available to deployed personnel by the LSSC of the deployed Medical Group. CISM is an integrated system of interventions designed to prevent and/or mitigate any adverse psychological reaction (i.e. post-traumatic stress reactions). The goal is to assist those affected by traumatic events to cope with the normal stress reaction in an effective manner. These actions are intended to minimize the impact of exposure to these events and prevent or mitigate permanent disability if possible. Moreover, the provision of these important services assists in making a smooth transition back to the home base and in reinsertion in the family constellation. See chapter 4 for further details.

5.4. After Action Reports. The deployed medical element (Expeditionary Medical Support [EMEDS], SME, IDMT, etc.) must complete an after action report IAW AFI 41-106 Medical Readiness Planning and Training, (Section 14.13.1) within 30 days of completing a deployment or other operations (including some exercise/training operations). Reports must be sent to the respective MAJCOM/SG and are meant to capture the lessons learned for future operations.

5.5. Delayed Patient Identification. Casualties can appear days, weeks, months even years after a deployment. These casualties may be the result of previously unidentified hazards or be of unknown origin. Medical providers will evaluate such patients using the tools and protocols of the (DOD) Post-Deployment Health Clinical Practice Guideline (PDH CPG). This evaluation will be conducted by the presenting patient's primary care manager/team and should be documented using the PDH CPG diagnostic code. If a communicable disease or deployment related illness is suspected, patients should be referred to PH. PH will conduct an initial investigation. This investigation may include an interview with the patient, and an epidemiological analysis.

Chapter 6

INFORMATION MANAGEMENT

6.1. Overview. It is essential to be able to track and document illness and disease in order to be proactive in preventing further spread and future outbreaks of disease. In addition, a chronicle of exposures is necessary to assist in the detection and treatment of future disease processes that may become chronic.

6.2.   Global Expeditionary Medical System.   Overall, GEMS improves the documentation of delivered healthcare and response to health threats and/or CBRN events that place our forces at risk. The GEMS reachback capability integrates patient evaluation, epidemiological analysis, occupational/environmental exposures, and medical command and control across the full spectrum of military medical operations and civil support actions.   GEMS improves, the documentation of the healthcare delivered and response to threats and/or CBRN events that place our forces at risk. The by-products are a better continuity of patient care, improved surveillance of the deployed forces' health, and the direct reduction of illness and death through risk avoidance in the event of attack or endemic event. The GEMS medical information system is a full spectrum medical management system with the following system components:

Figure 6.1. The Global Expeditionary Medical System

GEMS is a suite of tools to provide Air Force-wide medical force protection through standardized medical surveillance, analysis and Command and Control (C2). GEMS components include:

  - Patient Encounter Module (PEM) provides a standard electronic medical record for worldwide patient expeditionary surveillance and rearward connectivity.

  - Theater Epidemiology Module (TEM) aggregates field medical data, monitors deployed troops for BW/epidemic events, and provides theater medical C2 capability.

  - Algorithms produce disease epidemiology reports as indicators of potential BW attack. Personnel may modify these algorithms to meet local requirements.

  - A Theater Occupational Module (TOM) designed to monitor and track complex endemic, environmental, occupational, and operational-related exposures in the deployed setting.

  - Force-wide, command-level, data analysis of deployed medical occurrences is archived at Brooks City Base, Texas, and USACHPMM.

6.3. Patient Encounter Module.   The PEM is a paperless linked tool for front line medics to record individual patient assessments. The system works from a handheld

device in mass casualty or combat environments. The information collected is aggregated at progressively higher levels allowing for accurate theater assessment, epidemiologic monitoring and decision-making from the local to theater level.

6.4. Theater Occupational Module. TOM does occupational and environmental health surveillance and offers continuous monitoring of deployed individuals and locations for area threats and condition. The users can conduct Environmental Health Site Assessments, Potable Water evaluations, and Industrial Hygiene surveillance. The TOM creates a concise data set for the GEMS theater database with an integrated force protection capability. Until an NBC module is developed and fielded, NBC environmental surveillance data should be entered into the existing TOM as appropriate.

6.5. Data Reporting and Repository. USACHPPM maintains a central repository for occupational and environmental health data. The GEMS system will be used to transmit TOM information to the central repository. The information will be provided to the AFFOR/SG as well as the AFIOH. AFIOH will analyze the data as described in interim policy on occupational health surveillance published by AFMOA. In addition, any survey reports should be provided to USACHPPM according to DOD, theater, and AFFOR/SG procedures.

6.6. Public Health Deployed (PHD). PHD documents all public health related information and exposures. These include: Medical Entomology, Food Facility Inspections, Public Facility Inspections, Food Storage and Procurement Inspections, and Ration Inspections.

6.7. Theater Epidemiological Module. The TEM uses the aggregated field patient data from a single site or multiple sites. It provides both summary reports and graphic representation of disease activity, rates and trends. The TEM generates the Disease Non-Battle Injury Report (DNBI) as well as other surveillance and medical care documents. It also tracks important command and control information including dispositions of ill and injured patients, medical facility capability and PH concerns affecting the deployed population. Using pre-defined disease and symptom complex information, the TEM acts to automatically monitor and alarm if rates exceed pre-defined thresholds.

Chapter 7

EDUCATION AND TRAINING

7.1. Introduction. The goal of education and training, formal or informal, is to impart a working knowledge of concepts, principles, and procedures for casualty prevention intervention. The education and training building blocks for Air Force medical service personnel begins at initial training, upon entry into the service, and continues with periodic refresher training throughout the lifecycle of the service member. The pieces of the blocks can best be described in three phases: initial training, sustainment training, and just-in-time training. (See Figure 7.1)

7.2. Initial Training. Initial training will occur at the accession/entry level course. For the enlisted, these entry-level courses may include Basic Military Training at Lackland AFB, the Expeditionary Medical Readiness Course (EMRC) at Sheppard AFB, or Basic Expeditionary Medical Readiness Training at Brooks AFB. Officers receive initial training by attending the Commissioned Officer Training/Reserve Commissioned Officer Training course, or through a commissioning program such as a Service academy, Reserve Officer Training Corps, or Officer Training School, and technical school at the USAF School of Aerospace Medicine (USAFSAM) at Brooks AFB.

7.3. Sustainment Training.

7.3.1. Enlisted personnel enter into the sustainment training upon award of the 5-skill level.   Officers enter sustainment training after completion of unit orientation program and being awarded a fully qualified Air Force specialty code (AFSC).

7.3.2. AFSC sustainment training is designed to maintain medical skills of a fully qualified member to adequately perform the duties required by the member's AFSC in a deployed setting.   All personnel assigned to a UTC must participate in appropriate AFSC-specific training.   The Readiness Skills Verification Program (RSVP) database is the source for AFSC specific sustainment training requirements. The Wartime Medical Planning System Office, www.warmedurl.af.mil, is the primary guide for medical specialty-specific readiness training.

7.3.3. UTC sustainment training requirements are derived from the Mission Essential Task Lists that are established by the Manpower and Equipment Force Packaging owner of the UTC. MAJCOMs may provide supplemental guidance for medical personnel to complete additional training based on readiness missions.

7.3.4. Sustainment training can be formal in-resident training or utilize distance-learning capabilities, which are integral in reducing temporary duty costs and time away from home station.

7.4. Just-In-Time (JIT) Training.   Although JIT training is a component of education and training, it is not the optimal or desired method of training. Therefore, JIT training should occur just prior to the deployment phase (pre-deployment) of the operation or while deployed. Just-in-time training is specific to the deployed location and situation.

Figure 7.1. Training Pyramid.
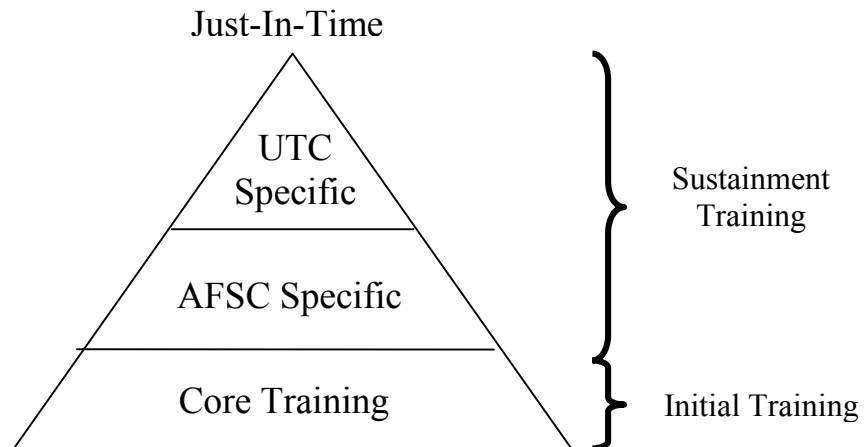
7.5.   Casualty Prevention Training.   AFI 41-106, *Medical Readiness Planning and Training* directs specific basic training requirements for medical personnel. There are several additional training courses and/or courseware that enhance understanding of casualty prevention. The following are recommended.

7.6. Formal Courses.

   7.6.1.   Medical Management of Biological/Chemical Casualties Course.   The Medical Management of Biological Casualties course offered by the U. S. Army Medical Research Institute of Infectious Disease (USAMRIID) at Ft Detrick, Maryland is held on a quarterly basis, and paired with the Medical Management of Chemical Casualties course offered by the U.S. Army Medical Research Institute for Chemical Defense (USAMRICD) at Edgewater Facility, Maryland. Participants spend three days at USAMRIID for the biological casualties' portion of the training and three days at USAMRICD for instruction on chemical casualties. The course includes classroom lectures and a field exercise. Further information is available at http://www.usamriid.army.mil/

   7.6.2.   Medical Effects of Ionizing Radiation Course.   The Medical Effects of Ionizing Radiation (MEIR) Course improves the operational capabilities of the military services by providing medical and operational personnel with up-to-date information concerning the biomedical consequences of radiation exposure, how the effects can be reduced, and how to medically manage casualties. MEIR Course lectures are postgraduate-level instruction primarily for military healthcare providers

(medical officers, physician residents, interns, and nurses), senior disaster preparedness personnel, and operational planners. The course is based at the Armed Forces Radiology Research Institute, Bethesda, Maryland. Further information is available at http://www.afrri.usuhs.mil/

7.6.3. Armed Forces Medical Intelligence Center Course. The AFMIC course is a field production activity of the Defense Intelligence Agency and the sole Department of Defense producer of medical intelligence. Further information is available at http://mic.afmic.detrick.army.mil/

7.6.4. Expeditionary Medical Support; EMEDS Basic Course # B30ZYEMEDS-0006.   This 5-day course is designed to provide field operational training for personnel assigned to the EMEDS Unit Type Codes. The course promotes team performance, cohesion, and cross-training/utilization of all deployed team personnel. This one-week course is offered at the **USAFSAM**, Brooks City Base, Texas. Further information is available at http://wwwsam.brooks.af.mil/web/index2.htm

7.6.5. Expeditionary Medical Support; EMEDS+10 Course # B30ZYEMED10-0005. USAF School of Aerospace Medicine, Brooks City Base, Texas

7.6.6. Contingency Operations Course (CONOPS) # B30ZYCONOP-001. The Contingency Operations Course provides training to personnel who have preventive medicine missions during wartime contingencies, operations other than war, and/or natural disaster relief operations. The CONOPS course target audiences are mid-level managers with little or no deployment experience and new members of preventive medicine deployment teams (Unit Type Codes). Training is accomplished through real world, peacetime and wartime, situational contingency scenarios. This course is offered at **USAFSAM**, Brooks City Base, Texas. Further information is available at http://wwwsam.brooks.af.mil/web/index2.htm

7.6.7. Global Medicine Course # B30ZY48X0-000. The global medicine course is a continuing medical education program designed to train operational physicians as well as other medical personnel to identify and plan for the infectious diseases and environmental conditions of medical and military significance worldwide. This course is offered at USAFSAM, Brooks City Base, Texas. Further information is available at http://wwwsam.brooks.af.mil/af/Globalm.htm

7.6.8.   Bioenvironmental Engineering NBC Course.   The course provides Bioenvironmental Engineer officers and enlisted personnel with the knowledge and skills required to perform NBC prevention, recovery and surveillance during wartime contingencies where an NBC threat is probable. The course is offered at USAFSAM, Brooks City Base, Texas.   Further information is available at http://wwwsam.brooks.af.mil/web/be/short.html

7.6.9. Critical Incident Stress Management. The International Critical Incident Stress Foundation offers over 25 different courses, which are offered at conferences

and trainings, held around the United States. Further information is available at http://icisf.org

7.7. Distance Learning.

7.7.1.   Medical Management of Biological/Chemical Casualties Course. This series of live, interactive broadcasts will inform and educate health professionals with detailed information for clinical recognition, laboratory identification, and medical response to biological and chemical attacks. The USAMRIID, the USAMRICD, Department of Veterans Affairs, and other organizations will present this program. Archives of previous broadcasts are available. Tapes from the November 2001 satellite program, entitled "Biological and Chemical Warfare and Terrorism - Medical Issues and Response", that originally aired 28-30 Nov & 8-9 Dec 01, are available from USAMRICD, Chemical Casualty Care Division to requesting DOD medical organizations. The "chemical" portion of this class is available via computer-based instruction. Further information is available at http://www.usamriid.army.mil/

7.7.2.   Suicide Prevention. This program was founded upon the concept that decreasing suicides meant implementing a community approach in which prevention and assistance were a focus long before someone became suicidal. The Air Force Suicide Prevention Program contains Air Force produced suicide prevention teaching products such as PowerPoint presentations, handouts, etc. Further information is available in attachment 2 and at https://www.afms.mil/afspp/

7.8. Additional Resources.

7.8.1. Combat Stress Control. This following site provides additional documents and guidance on combat stress control: http://www.vnh.org/FM22-51/CSCTOC.html.

7.9. Adopted Forms. DD Form 2795, *Pre-Deployment Health Assessment*; DD Form 1911*, Materiel Courier Receipt*; DD Form 2796, *Post Deployment Health Assessment*.

ATTACHMENT 1

GLOSSARY 0F REFERENCES AND SUPPORTING INFORMATION

Joint Publications

JP 4-02, *Doctrine for Health Service Support in Joint Operations*
CJCS Memo MCM 0006-02, *Updated Procedures for Deployment Health Surveillance and Readiness*
DODI 1322.24, *Military Medical Readiness Skills Training*
DODD 6205.3, *DOD Immunization Program for Biological Warfare Defense*
DODI 6490.3, *Deployment Health Surveillance and Deployment Medical Readiness*

Air Force Publications

AFDD 2-4.1, *Force Protection*
AFDD 2-4.2, *Health Services*
AFDD 2-4.3, *Education and Training*
AFTTP 3-42.1 [Draft], *Medical Command and Control*
AFTTP 3-42.3, *Health Service Support in NBC Environments*
AFTTP 3-42.5, *Aeromedical Evacuation*
AFTTP 3-42.7, *Aerospace Medical Contingency Ground Support System*
AFTTP 3-42.9 [Draft], *Home Station Medical Response to CBRNE Events*
AFM 10-206, *Operational Reporting*
AFI 10-400, *Aerospace Expeditionary Force Planning*
AFI 10-2501, *Full Spectrum Threat Response*
AFMAN 10-2602, *Nuclear Biological, Chemical and Conventional Defense Operations and Standards*
AFI 32-7086, *Hazardous Materials Management Program,*
AFPD 33-1, *Command Control, Communications, and Computer (C4) Systems*
AFI 33-108, *Compatibility, Interoperability, and Integration of Command, Control, Communications, and Computer (C4) Systems*
AFI 33-115V1, *Network Management*
AFI 41-106, *Medical Readiness Planning and Training*
AFI 44-153, *Critical Incident Stress Management*
AFOSH Standard 48-8, *Controlling Exposures to Hazardous Materials*
AFJI 48-110, *Immunizations and Chemoprophylaxis*
AFI 48-116, *Food and Safety Program*

AFMAN 48-138, *Sanitary Control and Surveillance of Field Water Supplies*
AFI 48-145, *Occupational Health Program*
AFMAN 48-146, *Occupation Health Information Management*
AFPD 90-9, *Operational Risk Management*

Other Supporting Information

Air Combat Command Field Manual 00-1, *Bioenvironmental Engineering Environmental Field Manual.*

American Conference of Governmental Industrial Hygienists, Threshold Limit Values

American Society of Testing and Measurements, [draft] <u>Standard *Guide for Environmental Health Site Assessment Process for Military Deployments*</u>

Army Technical Guide 230, *Chemical Exposure Guidelines for Deployed Military Personnel*

Force Health Protection J-4 Publication

Joint Policy Memorandum on Deployed Occupational Health and Environmental Health Surveillance.

US Army Center for Health Promotion and Preventive Medicine

Abbreviations and Acronyms

ADVON	advanced echelon
AE	aeromedical evacuation
AEF	air and space expeditionary force
AEW	air and space expeditionary wing
AFDD	Air Force doctrine document
AFFOR	Air Force forces
AFFOR/SG	Air Force Forces Surgeon
AFI	Air Force Instruction
AFIOH	Air Force Institute for Operational Health
AFMAN	Air Force Manual
AFMIC	Armed Forces Medical Intelligence Center
AFMOA	Air Force Medical Operations Agency
AFMS	Air Force Medical Service
AFOSH	Air Force Occupational Safety and Health
AFOSI	Air Force Office of Special Investigation
AFSC	Air Force Specialty Code
AFTTP	Air Force tactics, techniques, and procedures
AMS	aerospace medicine specialist
AOR	area of responsibility
BE	bioenvironmental engineering
BI	battle injury
BW	biological warfare
C2	command and control
CBRN	chemical, biological, radiological, or nuclear
CBRNE	chemical, biological, radiological, nuclear and high-yield explosive
CE	civil engineering
CEO	civil engineering operations
CEX	civilian engineering readiness
CISM	critical incident stress management

COMAFFOR	commander, Air Force forces
CONOPS	concept of operations
DMC	deployed medical commander
DNBI	disease and non-battle injury
DOD	Department of Defense
EHSA	environmental health site assessment
EMEDS	expeditionary medical support
EMRC	basic expeditionary medical readiness course
FGS	final governing standards
FHP	force health protection
FP	force protection
GEMS	global expeditionary medical system
HAZMAT	hazardous materials
HSS	health service support
IAW	in accordance with
IDMT	independent duty medical technician
JIT	just-in-time
LSSC	life skills support center
MAJCOM	major command
MDO	medical defense officer
MEIR	medical effects of ionizing radiation
MGRL	medical global reach laydown
MIO	medical intelligence officer
MTF	medical treatment facility
NAF	numbered air force
NBC	nuclear, biological, and chemical
OEBGD	Overseas Environmental Baseline Guidance Document
ORM	operational risk management
PAM	preventive and aerospace medicine
PDH CPG	post-deployment health clinical practice guideline
PEM	patient encounter module
PEP	pre-exposure preparation
PH	public health
PHD	public health deployed
PPE	personal protective equipment
SG	surgeon
SIPRNET	secret internet protocol router network
SME	squadron medical element
SVA	services agency
TEM	theater epidemiology module
TIC	toxic industrial chemical
TIM	toxic industrial material
TOM	theater occupational module
TTP	tactics, techniques, and procedures
USACHPPM	US Army Center for Health Promotion and Preventive Medicine

USAF	United States Air Force
USAFSAM	USAF School of Aerospace Medicine
USAMRICD	US Army Medical Research Institute for Chemical Defense
USAMRIID	US Army Medical Research Institute of Infectious Disease
USTRANSCOM	United States Transportation Command
UTC	unit type code
WVA	water vulnerability assessment

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