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Pamphlet 40-11

Medical Services

Preventive Medicine

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SUMMARY of CHANGE

DA PAM 40-11
Preventive Medicine

This new Department of the Army pamphlet, dated 22 July 2005--

- o Outlines the goals of Army preventive medicine (chap 1).
- o Introduces traditional preventive medicine topics including disease prevention and control (chap 2).
- o Covers field preventive medicine (chap 3).
- o Covers environmental health (chap 4).
- o Defines occupational health and the preventive medicine components of the Army Occupational Health Program and provides guidance for programs and services to support that Army program (chap 5).
- o Defines and provides health surveillance and epidemiology and procedures for deployment occupational and environmental health surveillance (chap 6).
- o Promotes soldier, family, community health, and health promotion (chap 7).
- o Describes preventive medicine toxicology (chap 8) and preventive medicine laboratory services (chap 9).
- o Defines and provides guidance for health risk assessment (chap 10) and health risk communication (chap 11).
- o Defines the programs and services within the medical functional area of preventive medicine throughout the publication.
- o Provides detailed instructions, guidance, and procedures and delineates the functions necessary for implementing the policies and responsibilities outlined in AR 40-5 where such information is not published in other Army publications throughout the publication.
- o Provides reference to other Army publications containing implementing instructions, guidance, and procedures related to Army preventive medicine throughout the publication.
- o Prescribes DA Form 3897 (Tuberculosis Registry).
- o Prescribes DA Form 5402 (Barber/Beauty Shop Inspection).
- o Prescribes DD Form 2493-1 (Asbestos Exposure, Part I-Initial Medical Questionnaire).
- o Prescribes DD Form 2493-2 (Asbestos Exposure, Part II-Periodic Medical Questionnaire).

Medical Services

Preventive Medicine

By Order of the Secretary of the Army:

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General, United States Army
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History. This publication is a new Department of the Army pamphlet.

Summary. This new pamphlet defines and establishes programs, services, functions, and procedures for implementing the essential elements of Army preventive medicine; it is to be used with AR 40-5.

Applicability. This pamphlet applies to all elements of the Army across the full spectrum of military operations from peacetime through major theater warfare. This pamphlet applies to all Army personnel to include the Active Army; the Army National Guard/Army National Guard of the United States and the United States Army Reserve personnel on active duty or

in drill status; the United States Military Academy cadets; the United States Army Reserve Officer Training Corps cadets, when engaged in directed training activities; foreign national military personnel assigned to Army components; and civilian personnel and nonappropriated fund personnel employed by the Army worldwide. Except for those preventive medicine services defined in Department of Defense Instruction 6055.1, for supporting Department of Defense contractor personnel during outside continental United States force deployments or specifically provided for in contracts between the Government and a contractor, this pamphlet does not generally apply to Army contractor personnel and contractor operations.

Proponent and exception authority. The proponent of this pamphlet is The Surgeon General. The Surgeon General has the authority to approve exceptions to this pamphlet that are consistent with controlling law and regulations. The Surgeon General may delegate the approval authority, in writing, to an assistant surgeon general, the U.S. Army Medical Department Functional Proponent for Preventive Medicine, or the equivalent of a director within the Office of The Surgeon General in the grade of colonel or the civilian grade equivalent. Activities may request a

waiver to this regulation by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity and forwarded through their higher headquarters to the policy proponent. Refer to AR 25-30 for specific guidance.

Suggested improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to HQDA, The Surgeon General (DASG-HS), 5109 Leesburg Pike, Falls Church, VA 22041-3258.

Distribution. This publication is available in electronic media only, and is intended for command level C for the Active Army, the Army National Guard/Army National Guard of the United States, and the United States Army Reserve.

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Glossary

Chapter 1

Introduction

1-1. Purpose

The purposes of this pamphlet are to—

- a. Define the programs and services within the medical functional area of preventive medicine.
- b. Identify Army publications that delineate functions and contain the detailed instructions, guidance, and procedures necessary for implementing the policies and responsibilities outlined in Army Regulation (AR) 40-5.
- c. Provide detailed preventive medicine functions, instructions, guidance, and procedures not published in other Army documents.

1-2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

1-3. Explanation of abbreviations and terms

Abbreviations and special terms used in this pamphlet are explained in the glossary.

1-4. Background

a. Army preventive medicine includes a broad set of capabilities, ranging from basic field sanitation techniques to comprehensive medical, behavioral health, and occupational and environmental health (OEH) exposure surveillance systems and procedures. These capabilities are focused on the medical readiness of the force to combat health threats across the full spectrum of military operations in the continental U.S. (CONUS) and outside the continental U.S. (OCONUS). They are also designed to promote and maintain the health and well-being of all personnel for whom the Army is responsible.

b. Army preventive medicine directly supports two of the three pillars of the Joint strategy for Force Health Protection (FHP), as described in the Joint capstone document, Force Health Protection - Healthy and Fit Force, Casualty Prevention, Casualty Care and Management (<http://www.dtic.mil/jcs/j4/organization/hssd/hssd.htm>).

(1) The first pillar of the Joint strategy, a healthy and fit force, is the necessary pre-condition for all other elements of FHP. Healthy and fit personnel are more resistant to disease, less prone to injury and the influence of stress, and better able to quickly recover should illness or injury occur. The process of creating a healthy and fit force begins at entry to service and continues through an individual's time in service.

(2) The second pillar of the Joint strategy for FHP, casualty prevention, protects the healthy and fit service member from occupational, environmental, and operational threats of disease and non-battle injury (DNBI). The sustainment of health and performance is essential throughout a service member's entire time in service, especially during pre-deployment, deployment, and post-deployment phases.

(3) The concept that a healthy and fit force and casualty prevention are the responsibility of both commanders and individual service members is an essential element of the Joint FHP strategy.

(4) Part of the mission statement of the U.S. Army Medical Department (AMEDD) is to project and sustain a healthy and medically protected force.

c. The goals of Army preventive medicine are—

(1) To ensure that deployable military forces in CONUS and OCONUS are in a state of optimal health and fitness, trained and equipped to protect themselves from DNBI.

(2) To sustain the health and fitness of forces deployed in CONUS and OCONUS and prevent casualties from DNBI.

(3) To ensure that Army units and personnel are trained, equipped, and capable of supporting the preventive medicine requirements of our forces across the full spectrum of military operations, CONUS, and OCONUS.

(4) To prevent and mitigate injuries and illnesses, improving and maintaining the health of all Army personnel, as defined in AR 40-5.

(5) To reduce the Army's medically related costs, in part by reducing demand for the more costly and less effective tertiary treatment services.

(6) To minimize the risks of long-term adverse health effects of military service.

1-5. Programs and services

a. Army preventive medicine consists of a broad scope of clinical, installation, and field public health programs and services applied in a wide range of military settings. These specific programs and services include—

- (1) Disease prevention and control.
- (2) Field preventive medicine.
- (3) Environmental health.
- (4) Occupational health.

- (5) Health surveillance and epidemiology.
- (6) Soldier, family, community health, and health promotion.
- (7) Preventive medicine toxicology.
- (8) Preventive medicine laboratory services.
- (9) Health risk assessment.
- (10) Health risk communication.

b. A brief discussion of each of the Army preventive medicine programs and services is provided in AR 40–5, paragraph 1–7, and at the beginning of each chapter in this pamphlet.

1–6. Planning, programming, budgeting, and executing preventive medicine resources

a. The Army mission, goals, and objectives drive resource requirements for dollars and personnel. The Army identifies and articulates its resource requirements to the Department of Defense (DOD) through the DOD’s Planning, Programming, and Budgeting System and the Army’s Planning, Programming, Budgeting, and Execution System (AR 1–1).

b. The Army Management Structure is the official Army framework for interrelating programming, budgeting, accounting, and manpower control through a standard classification of all Army activities and functions. The Defense Finance and Accounting Service (DFAS)-Indianapolis Center (IN) Manual 37–100–FY, published annually, is the fiscal code manual that provides the coding structure for a wide variety of Army and DFAS users.

c. The first level of detail in the coding structure defined by DFAS–IN Manual 37–100–FY consists of 11 major programs for which the DOD programs resources by fiscal year (FY). A subset of the many program elements in Program 8 (Training, Medical, and other General Personnel Activities) reflects the various medical support missions of DOD and the resources related to those missions. The Army preventive medicine programs and services receive resources through the Congressional appropriations for the Operations and Maintenance, Army account; the Army Working Capital Fund; and the Defense Health Program (DHP).

(1) Military Public/Occupational Health is the medical program element in the DHP through which Army preventive medicine programs and services are provided resources. The program element code (also known as an Army Management Structure Code or AMSCO) for Military Public/Occupational Health is 847705. The definition of the Military Public/Occupational Health program element 847705 is provided in the DHP section of the DFAS–IN Manual 37–100–FY chapter on Office of the Secretary of Defense (OSD), DOD, and Other Agency Accounts.

(2) The DHP section of the DFAS–IN Manual 37–100–FY chapter on OSD, DOD, and Other Agency Accounts also breaks down the 847705 program element into an extensive list of subactivities or functions that are identified in the program element code by two-digit decimal numbers added to 847705. For example, Hearing Conservation is identified as 847705.24 and Environmental Health Engineering as 847705.30.

d. The AMEDD articulates medical funding requirements through the DHP Program Objective Memorandum process, managed by the Office of the Assistant Secretary of Defense for Health Affairs or OASD(HA). Funding for the DHP is provided from DOD through OASD(HA) directly to the services’ medical departments.

e. A preventive medicine resource model exists to assist in determining local resource requirements. The model is a predictive, population-based and geographically based model of local mission requirements. The model relies on regulations, laws, and strategic and command guidance to identify the preventive medicine functions and tasks that must be performed. A series of formulas, relating to the functions and tasks, is used to estimate the dollars and personnel required to complete the preventive medicine mission.

f. Preventive medicine resource requirements and allocated funds are to be described and documented locally using the DHP activity structure and codes in DFAS–IN Manual 37–100–FY. The activity structure and codes provide a consistent structure for preventive medicine budget execution tracking and program analysis and review across the AMEDD.

Chapter 2 Disease Prevention and Control

Section I Communicable Disease Prevention and Control

2–1. Introduction

Communicable diseases can rapidly degrade the medical readiness of military units and their ability to carry out their mission. Communicable diseases can also cause significant suffering and excess utilization of military health care services among the beneficiary population. The prevention and control of communicable diseases are conducted

according to policies, directives, and instructions from The Surgeon General (TSG); AR 40–5; AR 40–562/AFJI 48–110/BUMEDINST 6230.15/CG COMDTINST M6230.4E; or Field Manual (FM) 4–02.33.

2–2. Functions

The following functions and those outlined in paragraphs 2–3 through 2–11 are necessary for the prevention and control of communicable disease as required by AR 40–5. The organization and function to support programs and services under each general topic will vary by installation based on the population served, the mission of the installation or organization, and the supporting preventive and non-preventive medicine assets.

a. TSG, through the Functional Proponent for Preventive Medicine, develops and publishes policies, procedures, and guidance for the prevention and control of communicable diseases.

b. Commanders—

(1) Provide manpower, training, resources, personal protective equipment, supplies, and facilities necessary to implement required disease preventive and control measures.

(2) Validate that all eligible personnel comply with prescribed individual protective measures.

(3) Comply with immunization requirements in AR 40–562/AFJI 48–110/BUMEDINST 6230.15/CG COMDTINST M6230.4E and command policy specified in AR 600–20.

(4) Maintain copies of current policy and guidance on disease prevention and control.

c. Medical commanders—

(1) Identify potential disease and environmental threats based on epidemiological information, intelligence, and knowledge of military activities.

(2) Recommend individual protective measures and environmental control measures to the commands they support based on the health threat assessment.

(3) Conduct medical surveillance of individuals and units operating in environments where the threat of serious disease or occupational and environmental injury or illness is present.

(4) Conduct epidemiological investigations of suspected disease outbreaks or disease occurrences capable of reducing military effectiveness or readiness.

(5) Report unusual occurrences of diseases or environmental health problems to appropriate commanders so corrective action can be taken immediately.

d. Preventive medicine organizations and personnel—

(1) Maintain knowledge of current disease prevention and control policies, procedures, and techniques.

(2) Advise commanders, units, and individuals on the prevention and control of communicable diseases.

(3) Advise units on disease and environmental threats, specific preventive measures, and medical surveillance before, during, and following deployments.

(4) Conduct outbreak investigations and contact tracing as appropriate for communicable diseases.

e. Individuals—

(1) Implement all preventive measures directed by command authorities.

(2) Avoid unnecessary exposure to infectious agents, hosts, or vectors of disease.

(3) Practice good personal hygiene.

2–3. Immunization and chemoprophylaxis

a. Immunization and chemoprophylaxis are provided according to the policies and procedures in AR 40–562/AFJI 48–110/BUMEDINST 6230.15/CG COMDTINST M6230.4E or as directed by TSG.

b. Immunization requirements for Active and Reserve Component personnel contained in AR 40–562/AFJI 48–110/BUMEDINST 6230.15/CG COMDTINST M6230.4E, or as directed by TSG, take precedence over guidance provided by the U.S. Public Health Service (USPHS) or the Centers for Disease Control and Prevention (CDC), Atlanta, Georgia.

c. Immunization requirements for civilian beneficiaries will be consistent with Department of the Army (DA) policies and with the immunization requirements for the general population according to the USPHS or the CDC. USPHS or CDC recommendations may be supplemented by guidance from TSG.

2–4. Acute respiratory disease

Acute respiratory disease (ARD) can result in considerable resources lost due to morbidity from various infectious agents and their high transmission potential. Agents of greatest military significance are: influenza, parainfluenza, adenoviruses, streptococcal infections, and mycoplasma infections. Other viral and bacterial agents are capable of causing ARD. Appendix B provides detailed background information, definitions, outbreak investigation procedures, and additional ARD surveillance guidance.

a. *ARD surveillance for all trainees at basic training installation.*

(1) TSG determines the need for penicillin (benzathine penicillin G) prophylaxis to protect against the occurrence of virulent streptococcal disease. Following each respiratory disease season (no later than 30 June of each year), the

Office of The Surgeon General (OTSG) will review and validate on an installation-by-installation basis whether penicillin prophylaxis continues to be required. This review will be conducted in coordination with the U.S. Army Training and Doctrine Command (TRADOC) Surgeon and appropriate representatives from the supporting military treatment facilities (MTFs).

(2) Medical commanders—

(a) Monitor and provide ARD rates among all trainees to appropriate higher headquarters. See appendix B for guidance.

(b) Monitor Group A streptococcal infections among all trainees, directing particular attention to changes in throat culture recovery rates and the presence of rheumatogenic strains of Group A streptococcal organisms.

(c) Administer influenza and adenovirus immunizations to recruits according to AR 40-562/AFJI 48-110/BUMEDINST 6230.15/CG COMDTINST M6230.4E.

(3) The installation/division commander implements non-vaccine-related procedures as recommended by TSG to control ARD outbreaks. These may include increasing space requirements, implementing hand-washing policies, or altering heating, ventilation, and air-conditioning air exchanges.

b. ARD surveillance at non-basic training installations.

(1) The installation/division commander implements, in coordination with the supporting medical commander, surveillance procedures to detect unusual outbreaks of ARDs, to include coordination with clinics and emergency rooms and monitoring of overall rates of school or work absenteeism.

(2) Medical commanders—

(a) Administer influenza vaccine to active-duty soldiers, civilian employees, family members, and retirees per AR 40-562/AFJI 48-110/BUMEDINST 6230.15/CG COMDTINST M6230.4E and TSG guidance.

(b) Implement any new surveillance or immunization program directed by TSG.

2-5. Meningococcal infection

a. Meningococcal vaccine is routinely administered year-round to basic trainees, individuals with theater-specific disease risk and to selective beneficiary populations based on CDC recommendations.

b. TSG defines settings, other than the recruit-training environment, where meningococcal vaccine should be routinely administered.

c. Unit and command surgeons and medical commanders—

(1) Maintain knowledge of the current requirements for immunization and chemoprophylaxis specified in AR 40-562/AFJI 48-110/BUMEDINST 6230.15/CG COMDTINST M6230.4E, paragraphs 35 and 44.

(2) Report promptly meningococcal infections using the Reportable Medical Events System (RMES) at the U.S. Army Medical Surveillance Activity (AMSA) Web site: http://amsa.army.mil/AMSA/amsa_home.htm.

(3) Submit all *Neisseria meningitidis* specimens to the Walter Reed Army Institute of Research, Division of Communicable Diseases and Immunology, Department of Bacterial Diseases, Building 503, Room 3A24, Forest Glen, Maryland, with patient status information included. Notify the Department of Bacterial Diseases prior to sample shipment.

(4) Coordinate with civilian public health authorities on contact investigations, chemoprophylaxis recommendations and risk communication during an outbreak affecting both DOD and non-beneficiary populations.

d. Appendix B contains a decision support matrix to assist in determining appropriate courses of action in the event of one or more cases of meningococcal infection.

2-6. Malaria

a. Malaria chemoprophylaxis is instituted when personnel are at risk of contracting malaria. Chemoprophylactic measures are implemented to protect soldiers against all types of malaria known to be in the area of operations.

b. TSG develops and publishes guidance on the most appropriate malarial chemoprophylactic medication. Specific drugs to be used are based on current drug resistance patterns and the prevalence of specific types of malaria in the theater of operations or in the area of anticipated travel. Additional directive guidance is provided in AR 40-562/AFJI 48-110/BUMEDINST 6230.15/CG COMDTINST M6230.4E, paragraph 45. Combatant command surgeons establish policy and vaccination requirements for personnel deploying into the command's area of responsibility.

c. Commanders—

(1) Train all their personnel in malaria prevention, including personal protective measures and the need to seek medical attention should they experience any febrile illnesses during or following assignment in malarious areas.

(2) Enforce appropriate chemoprophylaxis before, during, and following periods of travel to malarious areas.

(3) Enforce the use of personal protective measures to include military-approved skin and clothing repellents, the use of bed netting, and the proper wear of uniforms.

(4) Ensure an adequate supply and serviceability of personal protective equipment such as bed nets, skin repellents, and clothing repellents.

- d. Unit and command surgeons and medical commanders report any suspected or confirmed cases of malaria using the RMES.
- e. Unit field sanitation teams (FSTs) recommend vector control measures to unit leadership and implement counter-measures at the company level and below.
- f. Preventive medicine assets provide disease and vector surveillance, recommend personal and collective protective measures, and establish additional mosquito control measures during deployment if necessary.

2-7. Viral hepatitis

A hepatitis prevention and control program is designed and implemented to prevent infection and spread of viral hepatitis by—

- a. Immunizing with hepatitis A and hepatitis B vaccine as required. Command monitoring and enforcement of immunization of military personnel against hepatitis A and B are essential to the prevention and control of hepatitis.
 - (1) Immunize with hepatitis A vaccine according to AR 40-562/AFJI 48-110/BUMEDINST 6230.15/CG COMDTINST M6230.4E and TSG guidance. If the hepatitis A vaccine is contraindicated or unavailable, administer immune globulin to personnel considered to be at risk of contracting hepatitis A.
 - (2) Immunize all new accessions with hepatitis B vaccine (AR 40-562/AFJI 48-110/BUMEDINST 6230.15/CG COMDTINST M6230.4E).
 - (3) Immunize all active-duty AMEDD personnel and other people considered to be at risk of contracting hepatitis B (AR 40-562/AFJI 48-110/BUMEDINST 6230.15/CG COMDTINST M6230.4E). Those at risk include health care workers and all individuals with occupational exposure to blood and body fluids in their regular duties, spouses or sexual contacts of hepatitis B carriers, newborns of hepatitis B carrier mothers, and close contacts of persons known to be infected with the hepatitis B virus and other individuals or populations as listed by the CDC.
 - (4) Immunize Army personnel against hepatitis B prior to permanent change of station (PCS) moves to the Republic of Korea. Completion of the series or, at a minimum, the first two doses will be achieved prior to the PCS.
 - (5) Immunize other military personnel considered to be at risk of contracting hepatitis B infection, such as selected Special Forces personnel.
- b. Using command emphasis to ensure that unit personnel receive appropriate training and information on the prevention and control of hepatitis, especially on the principles of good personal hygiene and sanitation (hepatitis A); proper preparation and storage of foods (hepatitis A); importance of safe and clean drinking water (hepatitis A); safer sex practices (hepatitis B and C); and, for those occupationally exposed to blood or body fluids, appropriate personal protective equipment (hepatitis B and C) (Title 29, Code of Federal Regulations (CFR), part 1910.1030).
- c. Performing prenatal screening for the presence of hepatitis B surface antigen.
- d. Screening donated blood for the presence of hepatitis B virus and hepatitis C, and performing other screening procedures recommended by the American Association of Blood Banks. Suspected contaminated blood units must be removed from the inventory. (See appendix B.)
- e. Performing medical evaluation and counseling of all suspected and confirmed cases of hepatitis, to include acutely ill individuals and chronically infected persons.
- f. Conducting an epidemiological investigation on all cases of viral hepatitis.
- g. Reporting all cases of acute hepatitis using the RMES.
- h. Implementing a program to manage individuals with a bloodborne pathogen exposure consistent with current CDC guidelines.
- i. Screening for hepatitis C virus according to CDC guidelines and TSG guidance (AR 40-501).

2-8. Sexually transmitted diseases

- a. Successful prevention and control of sexually transmitted diseases (STDs) requires the following:
 - (1) Accurate diagnosis and appropriate treatment of infected persons and their sexual partners.
 - (2) Personal interviews and epidemiological contact investigation.
 - (3) Active surveillance at the installation level.
 - (4) Health education directed at all sectors of the military community.
 - (5) Reporting of STDs through the RMES as soon as possible after diagnosis.
- b. The success of STD prevention and control in the military is also contingent on a satisfactory working relationship with civilian public health authorities. A cooperative atmosphere with local, county, and state health offices involved in STD prevention and control is encouraged.
- c. At the installation level, STD prevention and control efforts include appropriate therapy and follow-up, disease intervention, identification of locations where a high level of STD transmission may occur, and community and unit health education. Centralization of diagnostic efforts, interviewing, counseling, and treatment procedures are ideal and lend themselves to better quality control and maintenance of patient confidentiality. The STD case interviews, contact investigations, and education should be conducted by a designated disease intervention specialist or community health nurse (CHN). A disease intervention specialist is an individual who has attended the Sexually Transmitted Disease

Intervention Course (6H–F9/322–F9) at the AMEDD Center and School (AMEDDC&S) or other comparable civilian training.

d. Unit health education classes are strongly encouraged and should be incorporated with human immunodeficiency virus (HIV) education efforts and classes on personal hygiene whenever possible.

e. Army STD control programs will adhere to guidance published by the CDC on screening procedures, treatment, follow-up and prevention strategies. The current preferred treatment regimens are outlined in the latest edition of the CDC Sexually Transmitted Diseases Treatment Guidelines. Guidance provided by TSG on the recommended treatment for uncomplicated gonorrhea and other STDs takes precedence over CDC guidelines.

f. Sexually transmitted disease information and statistics should not be used to compile indices of unit morale or integrity or commander efficiency.

g. The release of medical information concerning persons who have been diagnosed with an STD will be based on applicable laws and regulations. This applies to the reporting of STDs to state and/or local public health authorities in CONUS locations. Civilian contacts of DOD beneficiaries infected with an STD will be determined and reported through medical channels to local public health departments.

h. A screening program implemented in accordance with CDC guidelines to detect chlamydia and gonococcal infections in military personnel is a cost-effective approach in protecting the health of soldiers.

(1) Medical commanders should have a plan in place to conduct chlamydia screening of all female military service members up until the age of 25 years during their annual routine Papanicolaou smear screening pelvic examinations.

(2) Male and female service members of any age should be tested for chlamydia infection during appropriate medical encounters as clinically indicated by symptoms or risk factors for STD.

i. The Army conducts an HIV surveillance program as prescribed in AR 600–110. Medical commanders establish programs to offer post-exposure chemoprophylaxis and appropriate laboratory testing for all individuals exposed to blood or body fluids potentially infected with HIV. Programs should be consistent with current CDC recommendations. Other requirements for potential occupational exposure to HIV are found in 29 CFR 1910.1030.

2–9. Rabies

a. Rabies prevention and control includes pre- and post-exposure prophylaxis, stray animal control efforts, surveillance of animal rabies in domestic and wild animal populations, and community health education.

b. Medical commanders—

(1) Designate a Rabies Advisory Team/Board consisting of at least two qualified physicians (usually one physician is the preventive medicine medical officer) and one veterinarian. Although the incidence is low, rabies is almost 100 percent fatal; therefore, medical authorities involved in rabies prevention and control efforts should carefully evaluate each bite incident.

(2) Ensure rabies pre-exposure and post-exposure vaccination series are based on guidance in AR 40–562/AFJ 48–110/BUMEDINST 6230.15/CG COMDTINST M6230.4E, TSG guidance, and current U.S. Preventive Services Task Force (USPSTF) Advisory Committee on Immunization Practices (ACIP) recommendations (<http://www.ahcpr.gov/clinic/cps3dix.htm>).

(3) Report any cases of human rabies using RMES.

c. Attending physicians—

(1) Prepare animal bite incident reports on every domestic and wild animal bite or suspected rabies exposure using DD Form 2341 (Report of Animal Bite – Potential Rabies Exposure) as prescribed in AR 40–905/SECNAVINST 6401.1A/ARI 48–131.

(2) Consult with a physician member of the Rabies Advisory Board whenever contemplating the use of rabies post-exposure prophylaxis in accordance with current ACIP guidelines.

d. The responsible veterinarian—

(1) Reviews all new animal bite incident reports each duty day and coordinates with the animal owner and local authorities to have the animal examined/quarantined or euthanized and examined according to AR 40–905/SECNAVINST 6401.1A/ARI 48–131.

(2) Provides recommendation to Rabies Advisory Board physician(s) and the treating physician on the risk of rabies from an animal bite incident.

(3) Completes veterinary section of DD Form 2341 and forwards it to the chief, preventive medicine service.

e. Chief, preventive medicine service—

(1) Provides DD Forms 2341 to the attending physicians and tracks the status of each form.

(2) Reviews all new animal bite incident reports each duty day and coordinates with the veterinary service to identify the status of the biting animal.

(3) Identifies and coordinates rabies post-exposure prophylaxis under ACIP guidelines for all individuals exposed to an animal which has a high risk of being rabid.

(4) Ensures that the Rabies Advisory Board has reviewed and provided guidance for all bite incidents in which the biting animal is not caught, quarantined, and tested to be free of rabies.

- (5) Monitors patients started on rabies post-exposure prophylaxis to ensure that they complete the series.
- (6) Ensures that the chairman, Rabies Advisory Board, and the chief, preventive medicine service sections of DD Form 2341 are completed.
- (7) Maintains a copy of the completed DD Form 2341 and ensures the form is filed according to AR 40–66.
- (8) Coordinates rabies pre-exposure prophylaxis for personnel who have potential for exposure to rabies as part of their DOD occupation.
- f. The preventive medicine staff and the veterinarian coordinate evaluation and approval of animals in child development centers and family child care center homes identifying permitted species and breeds and required animal immunizations.

2–10. Tuberculosis

- a. *Introduction.* The purpose of tuberculosis surveillance and control is to prevent active tuberculosis cases through the identification and treatment of persons with latent tuberculosis infection (LTBI).
- b. *Functions.* Following are the functions related to tuberculosis surveillance and control.
 - (1) Tuberculosis surveillance and control is conducted by the preventive medicine service; overseen by the chief, preventive medicine; and managed by the chief, community health nursing.
 - (2) The chief, preventive medicine, or a designated physician, initially evaluates individual patients with LTBI and prescribes appropriate chemoprophylaxis. Community health nurses meeting the requirements to be individually credentialed as advanced nurse clinicians may also be authorized prescriptive authorities to initiate LTBI chemoprophylaxis.
 - (3) Staff CHNs are authorized to refill isoniazid and pyridoxine via specific medical protocols approved by the chief, preventive medicine, or other designated physician. Management of pediatric LTBI patients is determined by the individual MTF based on coordination among the chief, preventive medicine; the chief, community health nursing; and the chief, pediatrics/family practice and/or the child's primary care manager.
- c. *Additional guidance.* Appendix C provides additional guidance on testing, evaluation, treatment of LTBI, documentation, and coding.

2–11. Biowarfare threat

- a. Preparation to respond to single or multiple cases of illness that may represent the use of biowarfare agents is a key element of FHP. The CDC publishes a list of the major threats of concern; other activities within DOD update the threat list as needed. Preparation for and response to a potential use of biowarfare agents is and must remain a high priority for commanders at all levels.
- b. Preventive medicine capabilities that are likely to be critical in any response to a potential or actual use of biowarfare agents include—
 - (1) *Case detection.* Potential detectors of sentinel events include astute clinicians, information systems that analyze morbidity occurrence, and environmental detectors of threat agents. Various systems are under development to lower the threshold of detecting the use of biowarfare agents. Educational efforts must target health care providers to ensure they are knowledgeable of the signs and symptoms of the illnesses caused by the use of biowarfare agents. MTFs must maintain a high state of alertness to detect and immediately report any cases of potential use of biowarfare agents.
 - (2) *Case confirmation.* Case confirmation will likely rely on laboratory capabilities at appropriate Laboratory Response Network facilities. MTFs will assure that laboratory diagnostic support is defined and available for biowarfare agents high on the applicable threat list.
 - (3) *Case surveillance.* Surveillance to ascertain all cases will be critical to define the immediate and evolving scope of any attack.
 - (4) *Investigation to determine the source of the outbreak.* An investigation to determine the "who, what, where, and when" of early cases will help decision makers in identifying the source of a perceived attack and identify strategies for response.
 - (5) *Implementation of appropriate disease control actions to limit the spread of potentially communicable diseases.* MTFs must remain knowledgeable and prepared to implement appropriate treatment and disease control actions in response to the use of biowarfare agents.
 - (6) *Use of effective risk communication.* In the event of the use of biowarfare agents, all members of the community will become stakeholders in a perceived crisis. The development and dissemination of appropriate, accurate, and timely health information messages directed toward specific populations (for example, soldiers, other employees, commanders, health care workers, other beneficiaries) will be a necessary element of an effective response plan.
- c. Guidance from within DOD and from TSG concerning the use of biowarfare agents and bioterrorism attack and response continues to evolve at a rapid pace. Containment of a large-scale outbreak of disease caused by the use of biowarfare agents would require a rapid, prolonged, and substantial augmentation of the public health and medical infrastructure. Local contingency plans must be established in advance, to include coordination with emergency management services, the local medical community, and state and local public health agencies.

Section II

Travel Medicine

2-12. Introduction

Travel medicine services are provided at MTFs or by referral to appropriate facilities for Army soldiers, beneficiaries and personnel who have health concerns or requirements for travel OCONUS, PCS, or deployment. Travel medicine recommendations are based on current guidelines from CDC, the World Health Organization, TSG, Armed Forces Medical Intelligence Center (AFMIC), or other pertinent references for travel medicine.

2-13. Services

Travel medicine services include—

- a. Review of medical history, travel itinerary, and other travel-related factors to determine health risks. This determination may be based on self-completed questionnaires and/or personal interview.
- b. Review of the immunization and health record for overall compliance with routine immunization recommendations with a focus on travel-related immunizations.
- c. Recommendations for additional screening tests (for example, serologic titers), immunizations, chemoprophylaxis, personal protective measures, and other medical advice based on the geographic location of travel.
- d. Ordering of immunizations, medications, and other screening tests, as required.
- e. Advice on measures to reduce travel-related health risks.
- f. Medical threat briefings to soldiers or other groups.

Section III

Population Health Management

2-14. Background

a. This section provides guidance and direction for improving the interface of preventive medicine with curative medicine, primarily in the MTF environment.

b. Population health management comprises all the objectives of preventive medicine as described in AR 40-5 and involves personnel from the entire preventive medicine community. Any health care delivery system that incorporates a population health management approach will include components of public health, health promotion, disease prevention, and primary care. In a very broad sense, a population health approach will include an examination of different determinants of health of a given population, such as the socioeconomic environment, genetic endowment, and physical environment based on a community assessment.

c. The DOD Population Health Improvement Plan and Guide describes the key process improvement elements required to effectively engage in population health management. These process elements encompass programs and services in medical surveillance, epidemiology, preventive medicine, occupational and environmental medicine, and health promotion and wellness. The major functional elements of population health management that can involve the preventive medicine community are described below.

2-15. Functions

a. *Identifying the population.* Identification of the beneficiary population is an initial step in population health management. Determining the population serviced by an MTF requires the application of basic principles in epidemiology, data collection and monitoring, and analyses and evaluation. Areas to address in defining a population for an MTF are—

- (1) The demographics of the population served.
- (2) The health problems of the population.
- (3) The prevalence of diseases.
- (4) Investigation and analysis of risk factors associated with health problems.
- (5) The direct and indirect contributing factors of health problems.
- (6) Injury rates.
- (7) Disease-specific death rates.

b. *Forecasting demand.* Demand forecasting estimates the volume of care required by a beneficiary population. By utilizing data from the function above, this forecasting will estimate the services required for primary, secondary, and tertiary prevention programs and the demand for needed clinical preventive services in the community.

c. *Managing demand.* Demand management involves proactive interventions focused on reducing unnecessary health care utilization and establishing prevention programs that reduce the need for urgent, episodic care. The focus of any program should be on prevention of illnesses and injuries to encourage the use of effective decision support and self-management tools.

d. *Evidence-based primary, secondary, and tertiary prevention.* Prevention strategies that are based on evidence-based medicine should be the cornerstone of intervention programs. Emphasis should be placed on primary preventive

strategies, but the particular population of an MTF may dictate a larger emphasis on secondary or tertiary prevention strategies. Activities that can involve the preventive medicine community include the DOD/Veterans' Affairs (VA) Clinical Practice Guidelines (CPGs) initiative, local adaptation of clinical pathways, disease management and case management programs.

e. Community outreach. Community outreach programs are essential to ensure that the needs of key community stakeholders interface with preventive medicine services. Community outreach programs should engage a variety of settings within the community to include schools, health care facilities, worksites, places of worship, and recreational and sports areas. Refer to chapter 7 of this pamphlet for more definitive information. Areas of targeted interventions need to include—

- (1) Local environmental quality and hazards.
- (2) Quality of housing, education and transportation, spiritual, cultural, and recreational opportunities.
- (3) Social support services and structures.
- (4) Employment opportunities.
- (5) Effective mechanisms for collectively identifying, discussing, and addressing community concerns and interests.
- (6) Community health promotion and education.

f. Analyzing performance and health status. Evidence-based medicine measurements to assess the performance and outcomes of clinical interventions rendered by the MTF are essential to population health management. Such measurements of outcomes and health status can extend beyond a single point in time to describe the health of a population over time. Preventive medicine personnel can use such measurements from central and local population-based administrative and clinical databases to assess the effectiveness of health promotion and other preventive medicine programs. They can also use measurements from such databases to—

- (1) Enhance patient outcomes and satisfaction.
- (2) Examine the quality and cost effectiveness of the health care delivery system.
- (3) Assess the impact of clinical practice on the individuals treated.
- (4) Drive process improvement in the delivery system.
- (5) Provide accountability of performance.
- (6) Improve the knowledge base of medicine.

g. Patient education. Patient education (and parent education in the case of minor children) is an essential aspect of care. It empowers the patient as a decision maker, aides in patient compliance, reduces patient anxiety through an enhanced sense of control, and reduces legal liability through informed consent. Although the primary care provider is responsible for the overall preventive health education of the patient, all members of the health care team should inform and educate the patient on an ongoing basis.

h. Provider education. Provider education is crucial to the maintenance of a safe, effective, and efficient medical work force. Providers should stay current regarding the preventive aspects of medicine in general and regarding one's specialty through individual study, course work, conference attendance, and formal training.

i. Case management. Case management is a collaborative process which assesses, plans, implements, coordinates, monitors, and evaluates the options and services required to meet an individual's health needs using communications and available resources in order to prevent further deterioration of the patient's condition, to promote health and fitness, and to better manage medical resources. This function is performed by a social worker or a nurse practitioner for patients with multiple and/or clinically severe diagnoses. The function may also be helpful for families with multiple needs.

j. Discharge planning. Discharge planning is a process that assesses a patient's bio-psychosocial, spiritual, developmental, and financial needs and matches them with available medical, social, spiritual, and other environmental resources to facilitate a positive transition from one health care treatment environment to another health care treatment environment or to the community.

- (1) Discharge planning—
 - (a) Focuses on the prevention of relapse or the amelioration of the patient's care and well-being post-discharge.
 - (b) Requires a thorough knowledge of available community resources, the ability to make a bio-psychosocial assessment, and the capacity to balance competitive demands and shifting priorities. Discharge planning is usually performed by a social worker or a nurse practitioner.
 - (c) Includes case identification, information gathering, initial assessment, construction of a discharge plan, staffing of the plan, finalization of the plan, and implementation of the plan.
- (2) The discharge planner—
 - (a) Is an integral part of the care team as an independent, credentialed health care provider.
 - (b) Responds to requests for service from patients, family members, and other health care providers.
 - (c) Identifies cases for discharge and transition planning and support by assessing each admitted patient (or accepted patient in an outpatient setting) to determine those who need assistance as soon as possible. Early identification is essential in order to arrange a positive discharge within reasonable time limits.
 - (d) Advocates for the patient and/or the patient's family before hospital administrators, external agencies, and other

health care providers when necessary to facilitate a positive discharge and a better post-discharge environment for the patient.

(e) Actively works with both DOD and civilian professionals, organizations, and agencies to establish, improve, and coordinate better post-discharge resources for military beneficiaries.

Section IV

Hospital-Acquired Infection Control

2-16. Introduction

An effective hospital infection control program maintains high quality patient care, effectively uses hospital services, and protects employee health while preventing and controlling hospital-associated infections.

2-17. Functions

a. The medical commander's emphasis ensures the implementation of the hospital infection control program in accordance with the provisions of AR 40-5 and the requirements of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

b. The hospital infection control committee provides technical and administrative oversight of the program on behalf of the medical commander.

2-18. Hospital infection control committee

The hospital infection control committee operates as a medical audit committee and, as part of the hospital's quality improvement program, is responsible to the hospital commander. The basic principles of patient care and employee health apply to all inpatient areas, outpatient areas, emergency rooms, special care areas, and troop clinics.

a. Objectives.

- (1) Reduce the incidence of preventable infections.
- (2) Establish a practical and timely system for the recognition, evaluation, and reporting of hospital-acquired infections in hospitalized patients, recently discharged patients, and patients who have undergone same-day surgery or other ambulatory procedures.

(3) Provide assistance in developing preventive measures and policies.

(4) Maintain a continuing education program on the prevention of hospital-acquired infections.

b. Composition.

(1) The committee chairperson should be an AMEDD officer who demonstrates interest and knowledge in infection control.

(2) Additional committee members may include—

- (a) A hospital epidemiologist.
- (b) A hospital infection control officer.
- (c) Clinical service representatives.
- (d) An environmental science officer or sanitary engineer.
- (e) An administrative officer.
- (f) An occupational health clinic representative.
- (g) A microbiologist.
- (h) An entomologist if available.
- (i) An industrial hygienist.
- (j) A risk communication specialist.

(k) Representatives of the pharmacy, nutrition care, and housekeeping services, as well as other consultants. These individuals should be available for hospital infection control committee meetings when required. The hospital dietitian is a standing member of the hospital infection control committee at all Army medical facilities with inpatient tray service or inpatient nutrition care.

c. Duties.

- (1) The committee chairperson serves as the presiding officer of the committee.
- (2) The hospital epidemiologist—
 - (a) Supervises the educational program and surveillance activities.
 - (b) Assists in monitoring infection control policies and procedures.
 - (c) Serves as advisor to the hospital commander, medical staff, and nursing staff on infection control practices.
- (3) The hospital infection control officer.
 - (a) Normally a nurse appointed by the hospital commander, the hospital infection control officer serves as liaison between the hospital infection control committee and all departments or services of the hospital to—
 1. Facilitate clinical and environmental surveillance activities.

2. Foster an attitude of cooperation.
 3. Enhance the effectiveness of the educational program.
- (b) At the direction of the chairperson of the hospital infection control committee, the hospital infection control officer—
1. Coordinates all educational activities.
 2. Gathers clinical data to determine the incidence of endemic infections and manage epidemic events. This includes epidemiological investigation and reporting.
- (c) The hospital infection control officer can also serve as the hospital epidemiologist.
- (4) Clinical service representatives. Representatives of the major clinical departments and services, including nursing personnel, may serve as members of the hospital infection control committee to provide the necessary interdisciplinary clinical input.
- (5) The environmental science officer or sanitary engineer. The environmental science officer or sanitary engineer is normally the principal advisor on matters relating to the hospital environment including waste management, housekeeping, selection and use of cleaning and sanitizing products, food sanitation (including Hazard Analysis Critical Control Point program), hospital laundry, and environmental monitoring.
- (6) The administrative officer. The administrative officer is normally the principal advisor on administrative matters and services.
- (7) The occupational health clinic representative. The occupational health clinic representative is normally a staff member who is knowledgeable about the facility employee immunization program, bloodborne pathogen and tuberculosis exposure control programs, hospital-acquired infections, and guidance on work restrictions for employees with contagious infections.
- (8) The microbiologist. Normally a member of the microbiology/serology section of the clinical laboratory staff, the microbiologist provides the necessary input on microbiological data and procedures.
- (9) The entomologist.
- (a) Advises on the potential for pest infestations that contribute to the spread of infectious agents.
- (b) Suggests proper pest management measures. When an entomologist is not available, the environmental science officer can assist in obtaining consultative entomology support.
- (10) The industrial hygienist. The industrial hygienist advises on matters relating to ventilation or other workplace processes relating to hospital-acquired infections.
- (11) The risk communication specialist. The risk communication specialist advises on effective strategic planning and implementation of programs to enhance relationships for discussions regarding risk.
- (12) Representatives of the pharmacy, nutrition care, and housekeeping services, as well as other consultants, provide expertise when necessary.
- d. *Consultations.* On-site consultations and special studies should be requested from the hospital epidemiologist or hospital infection control officer at the relevant U.S. Army medical center (MEDCEN). The normal consultation routes are as follows: U.S. Army medical department activity (MEDDAC) to regional MEDCEN; regional MEDCEN to either TSG's physician or nurse consultant for hospital infection control. Requests may also be made directly to OTSG.
- e. *Activities.*
- (1) Meet at least every 2 months or as often as necessary to accomplish its objectives.
 - (2) Describe standard criteria for defining hospital-acquired infections.
 - (3) Establish written policies and procedures relating to isolation techniques, antiseptics, disinfection and sterilization techniques, waste management, food safety, and general sanitation.
 - (4) Establish written policies and procedures concerning patient care techniques and measures for the prevention of infections in patients and personnel, including effective risk communication.
 - (5) Verify that policies and procedures developed for such activities as clinics, special care services, laboratories, and support services adequately address the potential for infections and their prevention.
 - (6) Provide for a review, at least biennially, of all hospital and clinic written policies and procedures related to infection control; determine their applicability, and revise as appropriate.
 - (7) Provide assistance in the development of the infectious disease aspects of the hospital employee health program.
 - (8) Coordinate with the medical staff in its review of the clinical use of antimicrobial agents by analyzing and using significant surveillance data and antimicrobial susceptibility test data.
 - (9) Recommend actions to the medical facility commander to control hospital outbreaks of infectious diseases.
 - (10) Develop and provide an orientation package for all new hospital personnel concerning their responsibilities in the prevention and control of hospital-associated infections.
 - (11) Confirm that periodic, in-service education in infection control is provided to all departments and services and documented.
 - (12) Verify that information, including data supporting significant trends, is incorporated into departmental educational programs, as well as into formal presentations to the medical staff of the most current prevention and control concepts. (See AR 40–68.)

- (13) Provide summaries of actions taken as the result of organization-wide performance-improvement activities in infection control to the responsible person/activity.
- (14) Report infection control safety issues to the safety committee/safety officer.
- (15) Develop a comprehensive Hazard Analysis Critical Control Point-based food safety program including inpatient tray service and nutrition care.
- (16) Provide input to the hospital product review and standardization subcommittee.

2-19. Reporting

a. An endemic hospital-acquired infection rate for the hospital should be consolidated into formal reports for presentation during medical staff conferences. Hospital-acquired infections for a suitable period of time should be reported by the total surveillance (incidence) rate, the prevalence rate, or a targeted surveillance rate, depending on the size and complexity of the medical facility, where—

(1) The total surveillance (incidence) rate equals the number of patients developing hospital-acquired infections during a specific time period divided by the number of patients discharged over the same time period.

(2) The point prevalence rate equals the number of patients with hospital-acquired infections at a specific point in time divided by the number of patients in the hospital at the same point in time.

(3) Targeted rates are—

(a) Unit-specific based on bed days.

(b) Device-specific based on device days.

(c) Procedure-specific based on the number of times the specific procedure is performed.

(d) Benchmarked as appropriate (that is, National Nosocomial Infections Surveillance System for Hospitals).

b. Coding of diagnoses on individual patient data system coding transcripts from inpatient treatment record cover sheets should always include any diagnosis representing a hospital infection. (See AR 40-66.)

c. Certain highly communicable infections as well as significant outbreaks of infection should be reported expeditiously using the RMES.

Chapter 3 Field Preventive Medicine

3-1. Introduction

a. More soldiers become injured or ill from DNBI than from combat wounds. History has also shown that non-battle losses play a significant role in the outcome of military operations. Preventive medicine, when supported by command emphasis, is the most effective and least expensive means of reducing DNBI and maximizing the fighting strength.

b. This guidance applies in all training environments and across the full spectrum of military operations, within CONUS and OCONUS. Field preventive medicine focuses on improving and sustaining the health and fitness of the force and the operational management of health risks.

c. Field preventive medicine services are provided in levels according to FM 8-55 and FM 4-02.17. Each higher level of preventive medicine support provides an expanded preventive medicine capability.

d. Essential to the success of field preventive medicine is making Army personnel aware, before, during, and after CONUS and OCONUS deployments, of significant health threats and the corresponding medical prophylaxis, immunization, and other unit and individual countermeasures for the deployment area of operations. Health threat information for OCONUS area of operations can be obtained from AFMIC at <http://mic.afmic.detrack.army.mil>. For nonmilitary organizations unable to access the restricted AFMIC information, less concise but useful information can be obtained from the Central Intelligence Agency Fact Book (<http://www.odci.gov/cia/publications/factbook/>) and the World Health Organization (<http://www.who.dk/countryinformation/>).

e. Commanders must be kept informed before, during and after deployments of the health of the force, medical threats, stressors, risks, and available countermeasures.

3-2. Functions

a. Preventive medicine is organized into five levels of support. These levels are based upon capability, not upon echelon or location in the battlespace. The theater of operations is normally organized into four levels of support that extend rearward throughout the theater; the fifth level is located in CONUS. In the theater of operations, preventive medicine support is tailored and phased to enhance mission requirements, counter the medical threat, and provide preventive medicine support as far forward as the tactical situation will permit. Preventive medicine resources providing level II, III, and IV preventive medicine support will be employed on an area basis to provide the utmost benefit to the maximum number of personnel in the area of operations.

b. Staff sections within each level of preventive medicine support, less level I, provide medical intelligence and information, the medical threat, and the preventive medicine estimate of the situation to the surgeon or the command.

These sections ensure that essential information on the medical threat and preventive medicine measures are integrated in the Operation Plan, Operation Order, and briefings. They serve as the focal point for preventive medicine reports and analyze surveillance data to provide early warning of potential disease threats and monitor the effectiveness of preventive medicine activities in countering the medical threat.

(1) *Level I.* Level I preventive medicine support is provided by individuals, designated individuals or elements organic to combat, combat support, and combat service support units. Major emphasis is placed on those measures necessary to maintain basic sanitation and hygiene, protect individuals from the medical threat, and maintain a healthy and fit force.

(a) *Individual.* The individual soldier is trained to be proficient in a variety of specific individual preventive medicine measures with particular emphasis on basic sanitation and hygiene. This training enables the soldier to protect himself from the medical threat and prevent the most common types of DNBI.

(b) *Unit level.*

1. *Command emphasis.* Unit commanders ensure their personnel follow the sound preventive medicine measures in FM 21-10/MCRP 4-11.1D and AR 40-5 to address basic sanitation and hygiene, water potability, waste handling and disposal, field food service, pest management, environmental and industrial hazards, and other field preventive medicine areas.

2. *Unit FST.* The role of the FST is to aid the unit commander in protecting the health of the command by advising and assisting the commander in the many duties essential to reducing DNBI. By means of performing, instructing, supervising, assisting, inspecting, and reporting, the FST ensures that appropriate field sanitation facilities and practices are established and maintained; that effective sanitary and control measures are applied; and that effective preventive medicine measures are practiced to protect soldiers and maximize readiness.

(2) *Level II.* Preventive medicine technicians (military occupational specialty 91S) and preventive medicine officers (area of concentration 67C) provide support at this level. This is the first level of preventive medicine support that has medical personnel, typically organic to the unit, specifically trained in preventive medicine.

(a) *Brigade-level.* Level II preventive medicine support is provided by a preventive medicine team, typically an officer and a noncommissioned officer (NCO), organic to the medical company. They provide basic field sanitation, unit FST training, field screening and presumptive analysis of water supplies, basic pest management and surveillance, focal application of pesticide, and limited medical surveillance.

(b) *Division-level.* Division-level preventive medicine support is provided by organic preventive medicine personnel. Up to three preventive medicine teams may exist in the division's organic medical company. These teams can provide basic field sanitation, unit FST training, field screening and presumptive analysis of water supplies, basic pest management and surveillance, focal application of pesticide, and broad medical surveillance.

(c) *Corps-level.* The preventive medicine section of the area support medical battalion (ASMB) provides level II preventive medicine support in a Corps area on an area basis. The ASMB preventive medicine section provides the same basic functions as the division-level preventive medicine section. The ASMB preventive medicine section can backfill or augment division and brigade preventive medicine sections as required.

(3) *Level III.* At level III, preventive medicine support is provided by small, mobile preventive medicine detachments. This detachment provides technical consultation support on preventive medicine issues throughout the theater of operations. The unit provides specialized preventive medicine support in the areas of medical surveillance, health physics, disease-vector identification, environmental engineering, medical threat profile, and health hazard assessment (HHA). The detachment can provide field presumptive and confirmatory analysis of water samples, arthropods, and rodents. Level III preventive medicine assets can augment level II assets; this will be determined at the appropriate command level based on mission requirements. Operational capabilities of the detachment include, but are not limited to—

(a) DNBI surveillance and epidemiology.

(b) Environmental health.

(c) Medical entomology services.

(d) Nuclear, biological, and chemical (NBC) threat.

(e) Health promotion and education.

(f) Retrograde cargo inspections.

(4) *Level IV.* The area medical laboratory (AML) provides level IV preventive medicine support. The AML serves as the theater's source for confirmatory field laboratory analysis. The AML also prepares samples for shipment to the CONUS reference laboratories for definitive analysis. The AML has three sections supported by level IV preventive medicine: the endemic disease section, the OEH section, and the NBC section. The capabilities of each section are listed below.

(a) *Endemic disease section.* This section provides analytical, investigative, and consultative services to assist in the identification of endemic diseases that pose a potential threat to deployed forces (or other populations at risk) in the area of operations.

(b) *OEH section.* This section monitors and evaluates the OEH hazards to deployed forces and provides medical risk assessment and consultation on associated hazards.

(c) *NBC section.* This section provides analytical, investigative, and consultative services to assist in the identification of NBC threat agents in biomedical specimens and other samples from the area of operations. Capability exists within this section to perform field confirmation of suspected NBC threat agents.

(5) *Level V.* This level of preventive medicine support is provided by preventive medicine units in the CONUS. Home station operations centers, such as MEDDACs and MEDCENs in the CONUS sustaining base, will provide technical support for preventive medicine issues and support to the force during pre- and post-deployment surveillance. The U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) and its subordinate activities provide definitive laboratory analysis, serve as the technical center of expertise, and are the ultimate repository of all medical surveillance data collected within the theater.

3-3. Field sanitation teams

a. An FST is established for each company, troop, or battery. The FST consists of at least two individuals, one of which is an NCO. If available, the leader of the FST should be an NCO medic. FSTs train unit personnel in individual preventive medicine measures, and supervise or conduct basic level I preventive medicine services, such as base camp site selection, water treatment, arthropod and rodent control, solid waste management and prevention of climatic and noise injuries. The scope and details of unit FST operations are defined in FM 21-10/MCRP 4-11.1D, FM 4-02.17, and FM 4-25.12.

b. FSTs are trained and equipped according to FM 8-55, FM 4-02.17, and FM 4-25.12.

c. FSTs are trained and certified by supporting preventive medicine resources prior to deployments or field training exercises. Minimum essential training consists of at least 40 hours of classroom instruction, demonstrations, hands-on training, and testing. Standards for FST training are established by the AMEDDC&S. Additional guidance is provided in FM 21-10/MCRP 4-11.1D, FM 4-25.12 and in the AMEDDC&S's exportable FST training materials.

3-4. Field preventive medicine measures

a. *Field drinking water.*

(1) Unit or command surgeons—

(a) Implement or oversee the implementation of the preventive medicine procedures and instructions required for ensuring the adequacy and safety of field water supplies.

(b) Provide the medical oversight of field water supply operations for the prevention of waterborne diseases.

(c) Ensure the documentation of field water quality analyses that pose immediate and acute health threats as well as those that may cause chronic or long-term health effects.

(2) Instructions, standards, criteria, procedures, and guidance for the sanitary control and surveillance of field water supplies are provided in Technical Bulletin, Medical (TB MED) 577, FM 10-52-1, and FM 10-52.

(a) TB MED 577 provides specific instructions and guidance for preventive medicine personnel at each level of support regarding water supply source selection, and the sampling, assessment, sanitary control, and surveillance of field drinking water supplies.

1. The instructions and procedures in TB MED 577 are necessary for assessing water quality-related health risks in terms of operational risk management (ORM) (FM 100-14). The instructions and procedures provide for the minimization of waterborne disease risks to the extent that is operationally feasible.

2. These instructions and procedures provide for the documenting and archiving of field drinking water quality data in the designated DOD deployment OEH archiving system.

(b) FM 10-52-1 defines the roles and responsibilities for nonmedical units in the reconnaissance and selection of field water supply sources as well as the treatment, storage, and distribution of field drinking water supplies to minimize the threat of waterborne diseases.

(c) FM 10-52 defines the roles, responsibilities, and doctrine for water supply planning for military operations in arid, non-arid, and NBC environments.

b. *Food service sanitation.* Food service sanitation in the field must follow the procedures and guidance in TB MED 530. Preventive medicine personnel conduct health inspections of field food operations including the delivery of food to field feeding sites. Veterinary personnel provide the sanitary control and surveillance of bulk food procurement, distribution, and storage in the field.

c. *Climatic injury prevention and control.*

(1) Climatic injury prevention and control procedures and guidance are provided in TB MED 507/AFPAM 48-152 (I) (heat injury), TB MED 508 (cold injury), and TB MED 288 (altitude sickness). Additional technical information for AMEDD personnel supporting the U.S. Central Command (USCENTCOM) area of responsibility can be found at the following USACHPPM Web site: <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG273.pdf>.

(2) FM 8-55, FM 21-10/MCRP 4-11.1D, and FM 4-25.12 provide Army doctrine on individual soldier heat and cold injury countermeasures.

d. *Surveillance and control of disease vectors.*

(1) Surveillance and control of disease vectors procedures and guidance are provided in TB MED 561, Armed

Forces Pest Management Board (AFPMB) Military Pest Management Handbook, and AFPMB Technical Guide (TG) 24.

(2) Instructions and criteria for the use of personal protective measures against arthropods are provided in AFPMB TG 36.

e. Toxic industrial chemical medical threat assessment. Technical information for use by preventive medicine personnel in assessing the operational medical threat posed by potential exposures to toxic industrial materials (TIMs) can be found at the following Web sites: <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG230.pdf>, <http://www.apgea.army.mil/documents/TG/TECHGUID/TG230RD.pdf>, and <http://www.apgea.army.mil/documents/TG/TECHGUID/TG248.pdf>.

f. Stress control.

(1) Control and management of stress are important in providing and sustaining a fit and healthy force in training, during deployment and redeployment, and during CONUS and OCONUS military operations. Commander and leader responsibilities and procedures are described in FM 22–51. Unit ministry team and behavioral health care provider responsibilities and procedures for stress control are found in FM 22–51 and FM 8–51.

(2) Individual soldier and leader skills in controlling personal and organizational stress are the first line of defense in preventing combat and operational stress reactions and casualties. Such skills include early recognition of stress reaction symptoms, buddy aid, and knowing when to refer soldiers to a unit ministry team or a behavioral health care provider for assessment or intervention.

(3) Stress control must be provided at all levels of care and as far forward on the battlefield as possible.

(4) All soldiers and leaders are required to learn and practice personal and organizational stress control skills, recognize early signs of negative stress and battle fatigue in others, and apply appropriate buddy aid. Soldiers needing additional assessment or intervention are referred to available unit ministry team, combat stress control, or medical personnel.

g. Hazardous materials and hazardous wastes. There are numerous considerations for managing hazardous materials and their waste in the field. The following steps are to serve as basic guidance for managing these materials in the field. These guidelines are not designed to answer specific questions normally answered through command channels and Operation Orders. Many issues must be resolved according to the merits of a specific situation, set of circumstances, or Theater policy.

(1) Hazardous material management and disposal.

(a) Unit commanders and leaders OCONUS ensure disposal of excess, used, or unserviceable hazardous materials in a theater of operations through unit logistics channels and in compliance with the policies established in AR 200–1 and applicable environmental laws and regulations.

(b) For CONUS military operations, all hazardous material must be managed and disposed of in compliance with Federal and state laws and regulations.

(c) Engineer, logistics, and medical personnel advise and support commanders and leaders in proper hazardous material management and disposal.

(2) Unit waste disposal.

(a) At the company (and equivalent) level, unit FSTs assist the commander in implementing the waste disposal procedures specified in FM 21–10/MCRP 4–11.1D. Radioactive wastes are managed according to the procedures prescribed in AR 11–9.

(b) Above the company level, engineer personnel dispose of all classes of solid and liquid wastes in an OCONUS theater of operations according to FM 5–116 and FM 5–104. Disposal of solid and liquid wastes in CONUS operations must comply with Federal and state laws and regulations.

(c) The collection and transportation of unit waste materials to approved disposal sites is a unit responsibility or can be contracted. Final disposal of waste OCONUS can be by incineration or landfill, using facilities constructed and operated by engineer personnel or contracted through other-nation support and approved by the theater commander. Final disposal of waste from military operations in CONUS must comply with Federal and state laws and regulations.

(3) OCONUS theater policies on waste management, final waste disposal (incineration or landfill), environmental considerations, and use of other-nation support will depend on host-nation environmental requirements, support infrastructure, size of deployed force, and anticipated length of deployment. Consideration should be given to future U.S. Government liability for waste disposal and cleanup or restoration activities.

(4) U.S. contracting officials should develop and select the most appropriate and practical method of contractual waste disposal. For military operations OCONUS, contracts may include the retrograde of hazardous wastes back to CONUS, the provision of adequate human waste disposal facilities, treatment of medical wastes, incineration, and burial in landfills. U.S. contracting officials, and anyone else planning the disposal of wastes OCONUS, should coordinate with the theater surgeon's office.

(5) Preventive medicine personnel monitor field sanitation and waste disposal activities to advise commanders and engineers on proper waste handling and disposal procedures, ensuring that the health of soldiers is not threatened and environmental contamination is avoided. Additional technical information to assist preventive medicine personnel in this function can be found at the following Web site: <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/>

TG217.pdf; the information at this Web site is extracted or derived from AR 200-1, the Overseas Environmental Baseline Guidance Documents (OEBGD), and Federal and state laws and regulations.

h. Regulated medical wastes. For CONUS operations, the management and disposal of regulated medical wastes (RMW) must comply with Federal and state laws and regulations. For managing RMW in OCONUS operations, medical personnel, and anyone else responsible for managing, handling, or disposing of RMWs, should use the following procedures:

(1) Apply and use universal precautions whenever treating patients or handling (including transportation and disposal) wastes generated as a result of treating patients. This means wear protective gloves, masks, aprons, or other personal protective equipment that will prevent care providers from contracting communicable illnesses from patients.

(2) Never mix RMW with regular trash or hazardous waste. The RMW is segregated from general trash at the place where it is initially generated; the segregation must remain until final disposal has been accomplished.

(3) Use red bags (or any puncture-resistant, leak-resistant, and uniquely colored or marked containers) to hold RMW. Generally, the only items that should go into the red bags are those things that either have free-flowing blood, are dripping with blood, would release blood if compressed, or have caked, dried blood that can flake off the object when moved. In most cases, the items that provide universal precautions (gloves, masks, and so forth) are classified as general trash, not as RMW.

(4) Use sharps containers (rigid, puncture-proof, and leakproof containers, generally heavy-duty plastic with closable cover) for syringes, needles, scalpel blades, and glassware used in the diagnosis of patients. If plastic containers are not available, use closable metal pails. Never try to pour the contents of one pail into a larger container, such as a 55-gallon drum. Never recap needles with two hands! Do not snip or cut needles; they must be discarded intact into the sharps containers. Make certain, whatever the final disposal method is, that sharps are managed to prevent injury or perceived disease hazard to the indigenous population.

(5) Do not add fuel or other unauthorized materials to 55-gallon drums used to hold RMW (whether sharps or red bags). To do so may make final disposal more difficult or impossible, to say nothing about degrading safety.

(6) Be aware that, within a given theater of operations, there may be unique diseases. The theater surgeon or authorized medical representative should designate whether or not non-bloody wastes from these diseases require segregation and management as RMW. The decision is based on the nature of the disease, prevalence, the method of transmission, and other medical and scientific factors.

(7) Provide training to all soldiers to ensure they know what the operational procedures are for managing medical waste properly.

(a) Incorporate procedures in operations order annexes and in standing operating procedures (SOPs) for your area of operations.

(b) Make on-the-spot corrections immediately upon notice of a violation to the SOP or command policy.

(c) Document the occurrence through a memorandum for record and counseling statements for the perpetrators.

(8) Use incineration, sterilization, and then burial, or alternative technologies to treat and dispose of the collected RMW.

(a) The inclined-plane incinerator with vapor burner is one means to treat and destroy medical waste including sharps. (Seek prior approval from your chain of command and through your FST before creating and using the inclined-plane incinerator to ensure use of the incinerator maintains operational security and does not void intelligence or yield detection on the battlefield.) The inclined-plane incinerator is described in FM 4-25.12, paragraph 2-24b(2). A drawing of the incinerator is also available in the aforementioned FM in figure B-24. The waste feed to the inclined-plane incinerator should be mixed at approximately 10 percent by weight of medical waste (to include sharps) to 90 percent by weight of ordinary refuse (that is, rubbish). This mixture will help ensure the hottest and cleanest burn possible.

(b) Steam sterilization is recommended as an alternative to incineration of medical waste. Use autoclave bags and tape, and steam sterilize the medical waste until the infectious agent is destroyed (follow the operational instructions for the autoclave/steam sterilizer). Once steam is sterilized and cooled, the waste (now general trash) is managed as general refuse. Ensure care is taken when handling the waste to minimize needle sticks. **NEVER USE A FIELD MEDICAL SURGICAL STERILIZER TO AUTOCLAVE YOUR MEDICAL WASTE.** Use only field medical sterilizers permanently and indelibly marked and labeled for sterilizing medical waste. Be careful not to overload sterilizers as they do not hold a high volume, and often break down with extensive use. Their capacity and dependability is variable. Always have a contingency plan in place to manage waste that was intended for sterilization if the steam sterilizer becomes nonfunctional.

(c) Burning medical waste in barrels or pits may be permissible provided these burns are approved by appropriate command personnel and local officials and conform to regulatory policies for the specified region. Contracting for medical waste disposal is also possible. Your unit commander must specify in a Statement of Work or Performance Work Statement what is required from the contractor to ensure proper disposal of medical waste. Once a contract is awarded to a contractor by Directorate of Contracting, the unit commander must coordinate disposal of medical waste through the contracting officer's representative. Retrograding waste back to the rear where facilities are available is also an option if all other methods are not possible. The last resort is burying untreated medical waste in a local

sanitary landfill (with prior approval from local public health officials). Immediately cover medical waste with fill material.

(9) Dispose of the ash from burning medical waste by shoveling it into an open 55-gallon drum which, when full, would be retrograded to CONUS for burial in a sanitary landfill that meets U.S. operating standards.

(a) If the ash from the incinerator does not contain medical sharps, then that ash can be managed as ordinary trash and buried at designated locations in theater. Medical sharps consists of any medically related item that can penetrate the skin, including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

(b) However, scavenging at landfills by displaced civilians and hungry nationals cannot effectively be stopped or prevented after U.S. and Allied Forces depart. Therefore, ash containing sharps should be retrograded back to a garrison unit in the theater rear or back to the CONUS to minimize the threat of scavenging natives getting cut or injured by incinerated/treated sharps buried in the operational area landfill.

(10) Ensure soldiers wear both skin protection and respiratory protection when burning medical waste.

(a) An air-purifying respirator (cartridge or canister) with a high efficiency particulate air (HEPA) filter (National Institute for Occupational Safety and Health (NIOSH) HEPA or Class 100) is recommended. The paper surgical mask does not protect from hazards inherent in the burning of waste and should not be substituted for the air-purifying respirator.

(b) Wear of the soldier's personal protective mask is not recommended. Though the soldier's personal protective mask is equipped with a high efficiency particulate filter, it is best used to protect the soldier against chemical and biological attacks. Also, inappropriate use of the personal protective mask would wrongfully lead other soldiers to believe the operational area was under chemical attack.

(11) Specific medical information for use by military physicians, physician assistants and preventive medicine personnel regarding endemic infectious diseases expected to be seen in the USCENTCOM area of responsibility can be found at the following USACHPPM Web site: <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG273.pdf>. The information at this Web site is the result of a collaborative effort among USACHPPM, the U.S. Army Medical Research and Materiel Command (USAMRMC) and the AFMIC, and includes general medical information regarding illnesses due to environmental stressors as well as exposures to biological and chemical warfare agents and TIMs.

3-5. Individual soldier preventive medicine countermeasures

a. Preventive medicine countermeasures used by individual soldiers will have the greatest impact in preventing and controlling casualties from DNBI in any military operation, including garrison, training, and deployment operations.

b. Individual preventive medicine countermeasures for heat and cold injuries are identified in FM 21-10/MCRP 4-11.1D.

c. Individual preventive medicine countermeasures for arthropod-borne disease include—

(1) Wearing the uniform properly, and treating the uniform, head nets, and bed nets with DOD-approved repellent for clothing, used according to the instructions on the repellent container's label. (Refer to AFPMB TG 36.)

(2) Using DOD-approved insect skin repellents, netting, and insecticide aerosols as recommended by the local medical authority and according to the label instructions.

(3) Using the buddy system to check for ticks.

(4) Taking approved chemoprophylaxis and required immunizations.

d. Enteric disease prevention and control individual soldier countermeasures include—

(1) Using food, bottled water, and ice from military-approved sources only.

(2) Using water from military-approved sources only, or water that has been properly disinfected according to guidance from military medical authorities.

(3) Properly disposing of bodily wastes.

(4) Practicing good personal hygiene, especially hand washing after latrine use and before touching food.

e. Animal-borne disease prevention and control individual soldier countermeasures include—

(1) Excluding animals from the unit area.

(2) Removing trash daily and eliminating availability of animal-attracting water sources.

(3) Avoiding breathing dust containing animal feces and urine.

(4) Refraining from feeding and handling animals or keeping them as pets.

(5) Refraining from storing foodstuffs in sleeping areas.

f. Skin disease is prevented and controlled by individuals who practice good personal hygiene.

g. Hearing loss is prevented by avoiding noise-hazardous areas and wearing appropriate hearing protection according to Department of the Army Pamphlet (DA Pam) 40-501.

h. Exposures to harmful chemical, biological, and radiological materials are minimized by individual soldiers who—

(1) Become familiar with chemical, biological, and radiological hazards.

(2) Follow appropriate SOPs and guidelines while working with and/or around chemical, biological, and radiological hazards.

(3) Use appropriate personal protective measures and equipment against chemical, biological, and radiological hazards.

i. Airborne disease risks may be prevented and controlled by individual soldiers who—

(1) Maintain personal health and fitness.

(2) Practice good personal hygiene, especially covering the mouth when sneezing and coughing and washing hands after sneezing or blowing the nose.

(3) Receive and maintain appropriate immunizations.

(4) Use appropriate personal protective measures and equipment when applicable.

(5) Place sleeping bags or cots head-to-toe if there is less than 5 feet of space between them.

j. Physical injuries can be avoided by soldiers who—

(1) Avoid overly aggressive sports at the unit level where participants are inadequately trained, rules are modified to encourage aggressive contact, or there are no qualified officials.

(2) Avoid excessive running in individual and unit physical training (PT).

(3) Avoid running on uneven ground in unit and individual PT.

(4) Use proper material handling and lifting techniques at all times.

(5) Exercise properly.

(6) Report injuries early to unit medical assets in order to speed recovery and return to full readiness.

k. Sexually transmitted diseases can be prevented by soldiers who—

(1) Use condoms.

(2) Practice abstinence.

(3) Limit the number of sexual partners.

l. Additional hazards and their appropriate individual soldier protective measures are described in FM 21-10/MCRP 4-11.1D and FM 4-25.12.

3-6. Ice and bottled and packaged water in a tactical environment

a. In CONUS and OCONUS tactical environments, bottled water from a military-approved source and water produced and packaged by the military may be used as alternative sources of water supply when adequate water purification, storage, and distribution assets are not available to the commander.

b. The use of commercial bottled water does not ensure better protection against waterborne diseases than Army-produced field drinking water supplies.

(1) In some, but not all, cases, commercial bottled water receives treatment similar to that provided by fixed facility municipal drinking water operations or the Army's tactical water purification system with its reverse osmosis water purification technology. Most bottled water, however, is not packaged with a disinfectant residual such as chlorine.

(2) If transportation and storage conditions are poor, and minimal or no preventive medicine oversight is provided, then bottled water may pose a greater risk of illness than alternative sources of drinking water.

c. The U.S. Food and Drug Administration (FDA), the Army, and bottled water industry associations publish standards, criteria, regulations, and guidance applicable to bottled water production, packaging, and quality.

(1) FDA regulations for bottled water produced or packaged in the U.S. address the processing and bottling of drinking water and water quality standards for bottled water (21 CFR 129, 21 CFR 165.110, and 40 CFR 141.63). The maximum allowable levels for chemical contaminants in bottled water listed in 21 CFR 165.110 are also listed in TB MED 577.

(2) AR 40-657/NAVSUPINST 4355.4F/MCO P10110.31G defines policy, responsibilities, and procedures for the inspection, approval, and certification of providers of bottled drinking water for Army use. It is the basis for the publication of directories of sanitarily approved sources for DOD procurement of food items, to include bottled drinking water. It requires each overseas major Army command (MACOM) and the Commander of the U.S. Army Veterinary Command (VETCOM) to publish a DOD Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement (short title "Directory"). Updated versions of the Directory for each MACOM (CONUS and South America, Europe, USCENTCOM, and Korea) can be found on the VETCOM Web site at <http://vets.amedd.army.mil/vetcom/>.

(3) TB MED 577 presents the methods and procedures for the microbiological testing of bottled and packaged water quality prescribed by TSG. These procedures apply to all bottled and packaged water used during a deployment, and must be accomplished once the bottled or packaged water is received in a central storage facility, warehouse, port of entry, or other theater area issue point.

Chapter 4

Environmental Health

4-1. Introduction

a. Preventive medicine environmental health capabilities support the anticipation, identification, assessment, communication, and management of health risks posed by environmental health hazards associated with Army activities. The scope of these capabilities addresses environmental health issues that impact soldiers, their families, and the civilian work force. These capabilities can also address the health impacts of Army activities on surrounding communities.

b. Preventive medicine environmental health capabilities address the environmental health risks of the Army environmental program as defined in AR 200-1 by providing medical oversight of environmental programs to prevent disease and injury.

4-2. Functions

a. Procedures are established within each MACOM to—

(1) Consider all environmental health factors during environmental assessments.

(2) Ensure that the environmental health aspects of Army operations meet Army environmental objectives.

b. Installation preventive medicine and environmental personnel collaborate to establish installation-level preventive medicine liaisons with local health regulatory agencies and supported Army activities and units.

c. MACOMs obtain environmental health technical assistance, including investigations, consultations, special studies, and routine environmental surveys, through the Commander, U.S. Army Medical Command (MEDCOM). The MACOM command surgeon's office normally coordinates, assesses, and reviews environmental health technical assistance.

d. AMEDD environmental health capabilities support the Army Environmental Performance Assessment System (EPAS) operated by the Assistant Chief of Staff for Installation Management.

e. A broad range of technical services are available from USACHPPM to assist in the evaluation and management of environmental health risks. These services include—

(1) Review (and approval when authority is delegated by TSG) of documents relating to environmental restoration based on TSG's health risk responsibilities.

(2) Disposal guidance for military medical hazardous materials and medical waste.

(3) Sustainment training on—

(a) Environmental health topics.

(b) Transport of biomedical material.

(c) Risk communication.

(4) Oversight, quality assurance, and training for Army Environmental Program requirements for AMEDD facilities.

f. Necessary environmental health services are integrated into installation environmental activities through close coordination between installation and preventive medicine staffs.

g. Installation preventive medicine personnel working with environmental personnel—

(1) Establish an installation-level preventive medicine liaison with local health regulatory agencies and supported Army activities.

(2) Provide environmental health technical information to the installation public affairs officer, technical review committees, and restoration advisory boards for the Installation Restoration Program (IRP) and Base Realignment and Closure (BRAC) sites.

(3) Provide assistance to the installation commander in the investigation and evaluation of environmental health and risk communication issues related to pollution prevention, conservation, compliance, and environmental restoration activities.

4-3. Drinking water

a. The DA objective for Army drinking water systems is that they be optimally operated and maintained, capable of providing safe, palatable drinking water. Preventive medicine environmental health capabilities ensure that the Army's drinking water systems are operated and maintained in a safe and sanitary manner and according to all applicable regulations to protect human health.

b. Drinking water is provided at CONUS-fixed installations according to the requirements of 42 United States Code (USC) section 300f et seq. (the Safe Drinking Water Act, as amended) and all applicable Federal, state, and local regulations. Refer to the most current version of 40 CFR 141 and 40 CFR 143 for updates to the national drinking water regulations. Refer to individual state and local regulations, as applicable, for updates in those regulations.

(1) Army installations classified as suppliers of water must comply with substantive and procedural requirements pursuant to 40 CFR 141. (See AR 420-49 and AR 200-1.) Suppliers also must meet any state and local regulations that are more stringent than the Federal regulations.

(2) AR 420-49 provides additional Army requirements associated with safe water at CONUS-fixed installations.

- (3) The sanitary control and surveillance of water supplies on fixed installations are conducted according to the guidelines in TB MED 576.
- c. Drinking water at OCONUS-fixed installations is provided in compliance with country-specific Final Governing Standards (FGS) or, in the absence of FGS, the National Primary Drinking Water Regulations (NPDWR) as outlined in the OEBGD (DOD 4715.5-G).
- (1) AR 420-49 details additional Army requirements associated with safe drinking water at OCONUS-fixed installations.
- (2) The sanitary control and surveillance of water supplies on fixed installations is conducted according to the more stringent of TB MED 576 or host nation requirements.
- d. Chlorination and fluoridation of drinking water are conducted according to AR 420-49 and TB MED 576.
- e. Drinking water for field deployment and training operations is provided according to the procedures defined in AR 700-136, FM 10-52, FM 21-10/MCRP 4-11.1D, and TB MED 577.
- f. Drinking water on all Army floating vessels is provided according to 40 CFR 141 and NAVMED P-5010-010-LP-207-1300, chapter 6.
- g. Cross connections between potable and non-potable water distribution systems are not permitted. TB MED 576 and Unified Facilities Criteria (UFC) 3-230-02 discuss cross connections and provide proper references. The current Uniform Plumbing Code™ is followed in the design, maintenance, and renovation of water distribution systems and in the selection of all plumbing fixtures.
- h. Any standards, criteria, or guidance needed beyond those mandated by law for Army facilities and operations are developed through the Functional Proponent for Preventive Medicine and published by TSG.
- i. TSG or the Functional Proponent for Preventive Medicine approves the initiation or discontinuation of fluoridation of drinking water supplies at fixed installations following appropriate National Environmental Policy Act (NEPA) documentation (42 USC 4321 d).
- j. The following services are provided by USACHPPM:
- (1) Technical or operational assistance to installation commanders, including any necessary nonroutine sampling and analytical support for the Army's drinking water surveillance program. This assistance helps to ensure acceptable quality under all circumstances, including extreme events.
- (2) Technical support to preventive medicine personnel, including any required or nonroutine sampling and analytical assistance, to ensure acceptable drinking water quality in installation and deployment situations.
- (3) Preventive medicine laboratory analytical support that is certified by Federal and state regulatory authorities. This includes OCONUS laboratory analytical support that is accredited (International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 17025) in the U.S. and host nation. USACHPPM-provided drinking water analyses are restricted to specialty analyses, emergency needs, and support for special projects and health assessments.
- (4) Consultative support to projects relating to the provision of drinking water (for example, source, treatment, storage, distribution facilities, system vulnerability assessments, risk communication, and monitoring).
- (5) Training to installation personnel on the establishment of a regulatory-approved drinking water surveillance laboratory.
- k. The requirements of 42 USC section 300f et seq. (the Safe Drinking Water Act, as amended) apply to CONUS installation drinking water surveillance programs. OCONUS drinking water surveillance programs must comply with FGS or host nation requirements, whichever are most stringent (Department of Defense instruction (DODI) 4715.5).
- l. The installation commander provides all drinking water analytical results, plans, and projects to preventive medicine personnel for medical review and evaluation.
- m. Installation engineering support staff contact the supporting preventive medicine staff when the sanitary control of drinking water may be or is compromised. Drinking water quality can be compromised during any water system (treatment, distribution, and storage) installation, improvement or repair, or during any actual or potential emergency.
- n. Preventive medicine personnel maintain medical oversight and provide technical assistance and support for the Army's drinking water surveillance program at fixed Army installations that produce or purchase drinking water from another regulated supplier. Preventive medicine drinking water surveillance procedures include—
- (1) Medical oversight, quality assurance, and technical assistance to the installation's drinking water supply and monitoring program.
- (2) Verification that the supplier of water provides a drinking water monitoring (sampling and analysis) program according to the NPDWR. Preventive medicine personnel can assist the supplier by performing the compliance monitoring or by providing oversight to another laboratory (water supplier, contractor, health department) conducting the regulatory monitoring.
- (3) Review and medical evaluation of all drinking water analyses results. Summaries of these evaluations with any appropriate recommendations are provided to the medical commander.
- (4) Review of all drinking water sampling plans to verify that sample sites provide adequate representation of the serviced population with special attention to high risk locations (for example, child development centers, hospitals).

- (5) Confirmation that proper disinfection procedures, as required by AR 420–49, are carried out during repair and installation of any drinking water treatment, storage, and distribution facilities.
- (6) Liaison with proper Federal, state, and local regulatory authorities regarding current drinking water regulations, with close collaboration with installation utility and environmental personnel and water suppliers.
- (7) Sanitary surveys of the potable water system under installation control according to TB MED 576.
- (8) Independent surveillance of government-owned, contractor-operated facilities according to TB MED 576.
- (9) Providing information and guidance to the installation commander regarding—
 - (a) Current requirements for, availability of, and regulations concerning potable water.
 - (b) Appropriate corrective actions for potable water supply contamination episodes.
 - (c) Use of any alternative source (for example, bottled water or point of entry/point of use devices).
 - (d) The need for and methods of water conservation.
 - (e) Available methods to reduce pollution of the water supply by installation activities.
- (10) Assistance to the installation commander in developing a public notification plan to notify the installation population of any degradation or contamination of the potable water system.
- (11) Participation in all design and review processes for projects relating to the provision of drinking water (including treatment, storage, and distribution) to verify that such projects provide the maximum protection of human health.
- (12) Review and recommendation as to the concentrations and types of chemical additions to potable water supplies.
- (13) Assistance to commanders in developing vulnerability assessments and memoranda of understanding and memoranda of agreement with local authorities to foster relationships that facilitate the shared use of critical resources according to AR 525–13.
 - o. Uniform Plumbing Code™ is a registered trademark of the International Association of Plumbing and Mechanical Officials, Ontario, California. Use of trademarked names does not imply endorsement by the U.S. Army but is intended only to assist in identification of specific products.

4–4. Recreational waters

- a. Sanitary control and operation of Army swimming pools and natural swimming areas are conducted according to AR 420–49, Technical Manual (TM) 5–662, and TB MED 575.
- b. The installation commander verifies that swimming facilities, including spas and hot tubs, are maintained in a sanitary condition.
- c. Installation preventive medicine personnel assist installation commanders in the sanitary control of swimming activities by—
 - (1) Maintaining current information that includes engineering plans, type, location, size, maximum bather load, and operating hours for all swimming facilities.
 - (2) Providing training for lifeguards and applicable water supply personnel in the sanitary operation and monitoring of swimming facilities. Technical Manual 5–662 contains information about swimming pool operation. Additional information about operation and monitoring procedures is available in TB MED 575. Preventive medicine personnel also ensure that all lifeguards are certified in life-saving techniques by the American Red Cross or by other nationally recognized organizations that provide training in life-saving techniques.
 - (3) Performing annual, pre-season, and pre-opening inspections of swimming facilities in conjunction with the installation engineer, morale support officer, and safety officer to identify and correct any deficiencies before operations begin. Swimming facilities will not open until deficiencies noted during the pre-season and pre-opening inspections have been corrected.
 - (4) Periodically inspecting the swimming facilities and the operational logs to ensure that proper operation and monitoring are being performed at the frequency specified in TB MED 575.
 - (5) Conducting or overseeing microbiological sampling and analysis at the frequency specified in TB MED 575.
 - (6) Verifying that chlorine residual analyses are accomplished by an approved method.
 - (7) Maintaining records of sanitary surveys, inspections, results of bacteriological sampling, and other pertinent information.
 - (8) Maintaining liaison with state and local recreational water authorities and with the installation engineer, morale support officer, and safety officer.
 - (9) Conducting a yearly sanitary survey of all natural swimming areas under installation control.
 - (10) Conducting a semiannual comprehensive inspection of swimming pools operating year-round, including indoor pools.
 - (11) Conducting medical or technical reviews of all swimming facility construction and renovation plans. USACHPPM, or another applicable supporting laboratory or agency, can provide assistance in this review.

4–5. Ice manufacture

- a. Approved commercial ice plants are listed in the DOD Directory of Sanitarily Approved Food Establishments for

Armed Forces Procurement, published in VETCOM Circular 40–1, or on a locally approved establishment list. See AR 40–657/NAVSUPINST 4355.4F/MCO P10110.31G for food inspection and laboratory services policies and procedures.

b. In addition to the sanitary requirements for ice manufacture detailed in Military Standard (MIL–STD)–3006A—

(1) The current Uniform Plumbing CodeTM or local jurisdiction plumbing code (whichever is more strict) governs all plumbing associated with ice manufacturing.

(2) Surfaces of floors, walls, and ceilings of all rooms used for manufacture, processing, and storage of ice are to be smooth, impervious, and nontoxic (under use conditions).

(3) All can fillers, core-sucking devices, and drop tubes are handled in a manner to prevent contamination.

(4) Freezing cans are disinfected by steam or by being submerged for 2 minutes in a 100 parts per million (ppm)-free available chlorine solution.

(5) Only vehicles dedicated for transporting ice are used. An exception is granted for transportation of packaged or containerized ice in enclosed clean multi-use vehicles.

c. U.S. Army Veterinary Service personnel provide the following services:

(1) Sanitary inspections of ice manufacturing facilities off the installation.

(2) Ice sample collection and submission to appropriate veterinary laboratories for testing.

(3) Recommendations for adding or deleting ice manufacturers from VETCOM Circular 40–1.

d. Preventive medicine personnel perform sanitary inspections of all ice manufacturing and dispensing on installations (TB MED 530). Random bacteriological sampling of ice from these manufacturing and dispensing operations is performed as part of the local drinking water surveillance program.

4–6. Wastewater

a. Provide preventive medicine environmental health capabilities to support the disposal of Army waterborne wastes in ways that—

(1) Protect human health.

(2) Prevent contamination of receiving waters.

(3) Comply with applicable National Pollutant Discharge Elimination System (NPDES) requirements (40 CFR 122) or other discharge permit requirements.

b. Issues associated with the generation, collection, treatment, and disposal of wastewater that can have or are perceived to have an impact on the health or welfare of the soldiers, their families, civilian workers, and the general public must be evaluated by preventive medicine personnel, with recommendations made to the appropriate medical commander. Technical support for such evaluations is available from USACHPPM.

c. Technical procedures, equipment, and consultative support for assessing the impact of current and past Army activities on surface waters, sediments, and aquatic life is available from USACHPPM. These capabilities include—

(1) Assistance with installations' storm water programs through characterization of runoff and the recommendation of best management practices.

(2) Promotion of the beneficial use of sewage sludge (biosolids) through land application.

(3) Investigations of non-point source pollution from Army-unique activities, such as firing ranges, impact areas, and field training exercises.

(4) Evaluations of pollution prevention opportunities to include the recycle or reuse of wastewater.

(5) Guidance on oil and hazardous material spill prevention and contingency planning.

(6) Assistance in developing field wastewater management doctrine, criteria, and procedures.

d. The inclusion of preventive medicine personnel on the installation environmental management team allows for timely medical oversight of wastewater practices, to include—

(1) Medical review of routine and special wastewater monitoring data for health risk assessment.

(2) Emergency consultation to assess potential health effects from releases of untreated wastewater to surface or ground waters.

(3) Periodic performance evaluation of Army wastewater treatment facilities during routine operations for potential environmental health risks.

(4) Assistance to installation environmental staff in applying for Federal and state discharge permits; review of permits for general acceptability of specific parameters; and guidance for integrating the best management practice plan into NPDES permits in order to minimize potential health risks.

4–7. Pest and disease vector prevention and control

a. *Introduction.* The AMEDD is an integral part the Army Pest Management Program that is implemented according to AR 200–5 and DODI 4150.7. The AMEDD's role in pest management includes—

(1) Preventing and controlling vectors and pests that could affect the health and welfare of the Army community.

(2) Protecting personnel from unnecessary exposure to pesticides.

(3) Minimizing environmental effects from the use of pesticides.

(4) Assuring the preparedness of field units to prevent and control vector-borne disease in time of war, military conflict, or national or international disaster.

b. Functions.

(1) The following procedures and activities, provided to installation commanders or unit commanders by the preventive medicine staff of local medical commands, are essential in executing the pest management programs prescribed in AR 200-5, chapter 2:

(a) Conducting surveillance for vectors and pests that affect the health and welfare of the installation community.

(b) Maintaining liaison with the installation pest management coordinator to insure surveillance data is provided to the installation pest control office in a timely manner.

(c) Recommending personal protective measures when the risk of vector-borne diseases or troublesome numbers of pest bites is identified and verifying that soldiers receive and properly use skin and clothing repellents and other personal protective measures.

(d) Coordinating with local health officials to monitor the prevalence of disease vectors and other public health pests in the area surrounding the installation.

(e) Requesting pest resistance assessments from USACHPPM when pest resistance to pesticides is suspected.

(f) Providing medical oversight through monitoring and evaluation of the health aspects of the pest management program. Aspects of this medical oversight include—

1. Periodic verification that pest control personnel (pesticide applicators) are provided with and use appropriate personal protective equipment and that the equipment is stored separately from pesticides.

2. Verification that all pesticide applicators are enrolled in medical surveillance and hazard communication programs.

3. Periodic evaluation of installation pest control facilities to verify that they meet health standards (that is, adequate ventilation, emergency decontamination) found in AFPMB TG 17.

4. Periodic review of installation pest management plans and pesticide usage reports.

5. Monitoring of all pesticide sales (post exchange, commissary, veterinary clinic, and so forth) and distributions (self-service supply center, self-help and troop issue) on the installation to confirm that pesticide products offered for sale are labeled for retail sales and are properly displayed and/or stored.

6. Monitoring of pesticide levels in the environment and workplace and requesting assistance from USACHPPM when it is suspected that a spill has occurred or that safe levels of pesticide residues have been exceeded.

(g) Enforcing stringent sanitation standards in and around food handling facilities.

(h) Providing training to personnel involved in field unit pest and disease vector control operations.

(2) The commander, USACHPPM, monitors, evaluates and provides guidance on medical aspects of pest-related injuries and diseases, occupational health exposures from pest control operations, and effective risk communication planning. Procedures used to accomplish these medical functions include—

(a) Consultative, field, and laboratory services to support installation and medical commanders and the DA Pest Management Program. These services include, but are not limited to—

1. Arthropod identification services.

2. Vector-borne disease laboratories for the analysis of disease vectors.

3. On-site and laboratory pest resistance evaluations for pesticide resistance in pest and disease vector populations.

4. On-site vector-borne disease assessments providing consultative advice for existing or potential vector problems and the development of appropriate countermeasures.

5. Educational and training material on vector threats and preventive countermeasures.

6. On-site consultative visits on health-related matters associated with the use and disposition of pesticides (for example, pest management reviews, installation pest management consultations, and pesticide monitoring).

7. Investigation of alleged hazardous incidents resulting from the use or disposition of pesticides.

8. Determination of pesticide levels in the environment and workplace.

9. Training classes for preventive medicine and field preventive medicine personnel on pest surveillance, pesticide monitoring, vector-borne disease assessments, risk communication, and recording and reporting pesticide use.

(b) Operational testing and evaluations of equipment, products, and techniques.

(c) Non-Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Pesticide Applicator Certification and Recertification and FIFRA Recertification Training to host nation personnel when approved by the AFPMB.

(d) Lead agent activities for the DOD Tick-borne Disease Program.

(e) Executive agent activities for the DOD Pesticide Regulatory Action System. These activities include—

1. DOD Pesticide Hotline operation which provides information on pests, integrated pest management, pesticide registrations, pesticide labels, and material safety data sheets (MSDSs) to DOD activities.

2. Review of pest management regulations proposed by Federal and state agencies.

3. Preparation of DOD draft responses to Federal and state regulatory proposals.

(f) Archiving pesticide use reports generated by deployed forces.

(3) The Commander, AMEDDC&S, works with the Commanding General, TRADOC, to develop curricula and conduct training to meet certification and other pest management training requirements mandated by Government laws and regulations, and DA pest management policy objectives. Specific training conducted by the AMEDDC&S includes—

- (a) Pesticide applicator certification and recertification training to meet the standards outlined in DOD 4150.7–P.
- (b) Other resident and nonresident training as requested by other military or Federal organizations to meet specific pest management training needs.

c. Pest surveillance.

(1) Pest surveillance is conducted according to TB MED 561 to identify the presence of medically important pests, show when and where control should be initiated or ended, and document success of control measures.

(2) Results of surveillance are reported to the installation pest management coordinator. Records of surveillance activities and pest management measures permit assessment of the effectiveness and environmental consequences of the pest management programs.

(3) The time and labor expended by medical personnel in pest surveillance activities should be reported monthly to the pest management coordinator in support of the requirements in AR 200–5, paragraph 2–10b.

d. Personal protective measures.

(1) Although personal protection is an individual responsibility, it is also an important adjunct to unit-level and higher level preventive medicine countermeasures. Army personnel must be aware of the types of arthropods in an area, their habits, the threat they present, and the resources available for protecting personnel and ways to use those resources effectively.

(2) Command emphasis is essential. Commanders and medical personnel must monitor compliance with personal protective strategies to ensure that all appropriate protective resources are being provided and that Army personnel are using these protective resources properly. All personnel must have immediate access to sufficient personal protective supplies if they are to be adequately protected during training and upon deployment.

(3) The personal protective measures directed for use by Army personnel are found in AFPMB TG 36. Additional implementing guidance and instructions for the use of personal protective measures can be found in FM 21–10/MCRP 4–11.1D and Soldier Training Publication (STP) 21–1–SMCT.

(4) The DOD Insect Repellent System includes the application of a personal arthropod repellent (extended-duration 33 percent N,N-diethyl-meta-toluamide (DEET) lotion) to exposed skin, coupled with the application of permethrin to the field uniform. When used with a properly worn uniform, the DOD Insect Repellent System provides maximum protection from arthropod-borne diseases. Permethrin-treated bed nets and the DOD-approved aerosol insecticide (2 percent d-Phenothrin) should also be used when appropriate.

(5) The use of flea and tick collars on Army personnel is strictly prohibited. These devices are designed for use on dogs and cats and are not safe for human use.

(6) Insect bed nets and head nets should be considered in situations where their use will provide protection from bites of vector and pest species.

e. Personal protective equipment.

(1) The installation or contractor must provide adequate protection from workplace hazards for pest control personnel (as required by 29 CFR 1910, other applicable laws, regulations and/or the pesticide label). Personal protective equipment and clothing will be provided at installation or contractor expense.

(2) Responsibilities, policies, and procedures for providing personal protective clothing and equipment are specified in AR 385–10 and TB MED 502/Defense Logistics Agency Manual (DLAM) 1000.2. Information on pest management protective equipment may be obtained from AFPMB TG 14. Additional information on protective equipment may be obtained from USACHPPM.

(3) At a minimum, the following personal protective equipment will be available to pest control personnel: solvent-resistant gloves, aprons, and boots; splash protective eyewear; and hearing protection. All personal protective equipment must be available in sufficient quantity to provide protection to all pesticide applicators. Additional personal protective equipment may be required based upon requirements specified on the pesticide labels and must be available for use by pesticide applicators. For example, if fumigants are used, then a self-contained breathing apparatus must be available to the pest control personnel. Specialized training is required to use this equipment (AFPMB TG 14).

(4) A daily change of protective clothing is provided for each pesticide applicator. Protective clothing should consist of a complete change of outer clothing and coveralls. This clothing is to be worn in place of, not over, personal clothing. Coveralls should be worn only during actual pesticide application. Adequate sets must be available to allow an immediate change of outer clothes if the set being worn becomes contaminated.

(5) Home laundering of protective clothing is prohibited. All protective clothing is laundered by the employer (installation laundry service or appropriate commercial service). A washer and dryer may be located at the pest control shop for this purpose if laundry service is not available. Severely contaminated clothing is treated as pesticide-related waste and disposed of in accordance with current regulatory requirements.

(6) Protective clothing and equipment must be stored separate from pesticide storage and mixing areas to prevent contamination by pesticide vapors.

(7) The AFPMB TG 41 provides personal protective equipment guidance for use by personnel occupationally at risk for rodent-borne hantavirus infection.

(8) Supervisors and commanders are responsible for assuring that protective clothing and equipment is worn.

f. Respiratory protection.

(1) Respirators are required when the occupational exposure limit is exceeded for a chemical of concern or when the potential for exposure exceeds applicable risk management criteria.

(2) All pest control personnel who wear a respirator are included in the installation respiratory protection program. The respiratory protection program is conducted in compliance with AR 11-34, 29 CFR 1910.134, and TB MED 502/DLAM 1000.2.

(3) Supervisors and commanders are responsible for assuring that respiratory protection is worn.

(4) Contractors are responsible for providing respiratory protection for their employees.

(5) Respirators and replacement canisters must be stored separately from pesticide storage or mixing areas. Canisters exposed to pesticide vapors may be rendered ineffective.

(6) Respirator cartridge(s) or canister(s) are changed when indicated by a respirator end-of-service-life indicator certified by NIOSH for containment. If the respirator cartridge or canister has no such indicator, then the supervisor must implement a cartridge or canister change schedule that is based upon objective information or data that will assure cartridges or canisters are changed before the end of their expected service life.

g. Medical surveillance.

(1) All installation personnel who apply pesticides are included in a medical surveillance program as part of the Occupational Health Program. Also included are on-site supervisors, quality assurance evaluators, and grounds keepers who are potentially exposed to pesticides. This program should consist of an annual physical, liver function tests, complete blood count, and pulmonary function test. In addition, red blood cell cholinesterase levels should be monitored if organophosphate or carbamate pesticides are used.

(2) Pest management contractors are expected to provide their own medical surveillance support. Contractor management ensures that contract pest management personnel have appropriate medical monitoring.

(3) Personnel who handle or otherwise come into contact with wild animals on the installation receive rabies pre-exposure prophylaxis. This includes military police, wildlife biologists and pest management technicians.

h. Hazard communication. According to 29 CFR 1910.1200, all installation pest control personnel are involved in a Hazard Communication (HAZCOM) Program (Right-To-Know) that includes—

(1) Periodic training in the potential hazards of the chemicals they use; how to use personal protective equipment; and the hazards associated with any nonroutine tasks.

(2) Copies of the MSDSs for hazardous chemicals at a given worksite. These MSDSs are to be located close to employers in that area and are to be readily accessible to them during each work shift.

i. Pesticide use.

(1) Only personnel trained and certified under AR 200-5 and the DOD 4150.7-P are allowed to apply pesticides or supervise or make recommendations concerning the application of pesticides. All contract pest management personnel who apply pesticides on Army installations must be certified to apply pesticides in the state where the installation is located. Personnel who apply pesticides during military contingency operations, readiness training exercises, and deployments must be certified or under the overall direction of certified pesticide applicators according to DOD 4150.7-P. Army FST personnel are exempt from this requirement, but must complete FST training according to FM 4-25.12.

(2) The use of preventive or scheduled periodic pesticide treatments is prohibited unless approved by the appropriate pest management consultant and based upon surveillance data or past pest problems.

(3) Many states have public notification and posting requirements of outdoor pesticide applications. Although DOD does not currently require posting of public grounds, each installation should determine appropriate actions (according to state requirements) to protect the public (especially children) from unnecessary exposure to pesticides in lawns, playgrounds, PT fields and golf courses. Also, procedures must be established to notify persons on the multiple chemical sensitivity registry.

(4) Aerial dispersal of pesticides is to be conducted according to AR 200-5. All aerial dispersal of pesticides must receive prior approval from the appropriate MACOM. Upon request, entomologists assigned to the local medical command, MACOM, or USACHPPM provide assistance in the preparation and evaluation of aerial applications. Actual application is to be conducted under the direct and continuing supervision of an applicator certified in the category of aerial dispersal of pesticides. Detailed procedures are described in FM 4-02.17.

(5) Guidelines for pesticide spills are as follows:

(a) In the event of a pesticide spill, contain the spill to the maximum extent possible with absorbent material without putting yourself or others in danger, and call emergency services. Then, if safe, block off the area and ventilate while awaiting response from appropriate hazardous spill personnel.

(b) Immediate assistance for emergency-type pesticide spills that threaten life or gross contamination of the environment can be obtained by calling the Chemical Transportation Emergency Center (CHEMTREC) at (800) 424-9300. For spills outside CONUS or within Washington DC, call (202) 483-7616.

(c) All pesticide spills are reported and decontaminated according to the guidance given in the installation spill contingency plan, the spill prevention control and countermeasure plan, and/or the installation pest management plan. Additional information is available in AFPMB TG 15.

(d) Information on decontamination of nonemergency-type pesticide spills may also be obtained by dialing the CHEMTREC number given above. The operator must be told immediately that—

1. No emergency exists.
2. The call is a request only for decontamination information.

(6) The DOD Pesticide Hotline operation at USACHPPM can provide information on pests, integrated pest management, pesticide registrations, pesticide labels, and MSDSs. The DOD Pesticide Hotline can be reached at DSN 584-3773, commercial (410) 436-3773, or <http://chppm-www.apgea.army.mil/ento>.

j. *Pest quarantine.* Pest quarantine policies and procedures in AR 40-12/SECNAVINST 6210.2A/AFR 161-4 are intended to prevent the domestic (interstate) and/or international introduction and dissemination of medically and agriculturally important pests.

(1) Commanders at all levels are to cooperate fully with Federal, state, or the foreign nation agency responsible for pest control quarantine. Commanders establish guidance and procedures to meet quarantine requirements.

(2) Installation personnel procure pesticides, equipment, and other material needed to comply with Federal quarantine requirements.

(3) Installation commanders notify the higher command pest management command consultant of any quarantine issue or action on installations or lands under the installation commander's command and control.

(4) Additional information on quarantine procedures can be found in DOD 4500.9-R.

k. *Pesticide sale and distribution.*

(1) Pesticides and equipment issued or distributed to military personnel and occupants of family housing for use in self-help programs (AR 420-70) are restricted to a subset of those on the AFPMB's DOD Standard Pesticides and Pest Control Equipment Lists. AFPMB TG 42 clarifies which items are available for self-help programs. Installation self-help center managers are guided by the appropriate pest management consultant and the medical commander for item selection and issue.

(2) Guidelines for selecting, selling, and handling pesticides at post exchanges, commissaries, veterinary clinics, and so forth, on Army installations are as follows:

(a) Only U.S. Environmental Protection Agency (EPA)- and state-registered pesticides may be offered for sale on Army installations. Concentrated pesticide products are not to be sold in post exchanges or commissaries. Pesticide products labeled "Restricted Use" or "For Professional Use Only" are not to be sold.

(b) All pesticides offered for sale should be arranged separately on sales display shelves and in storage according to type (for example, herbicides, insecticides, rodenticides, fungicides, and disinfectants). Pesticides should be segregated from all food products and sensitive items (for example, baby toys, diapers, food-holding kitchenware) in storage, during transportation, and while on display. Segregation means there should be sufficient space between pesticides and food items so that spillage or leakage should not contaminate food and sensitive items. Pesticides are to be stored and displayed where they are protected from the elements, from temperature extremes, the handling of products by children, and where accidental spills can be easily contained, cleaned, and the area decontaminated.

(c) Employees handling pesticides should be familiar with proper measures for safe handling. When bagging groceries, pesticides should not be bagged with food items, but should be bagged separately. Employees should be familiar with cleanup procedures for spills.

l. *Pesticides and pesticide container disposal.* Dispose of pesticides and pesticide containers according to label directions. Contact the local or installation hazardous materials management office or the DOD Pesticide Hotline at DSN 584-3773 or commercial (410) 436-3773 for pesticide disposal instructions if not on the product label.

m. *Pesticide monitoring.* A DA Pesticide Monitoring Program was established to assess possible adverse environmental or public health effects and to monitor the health and safety of persons occupationally exposed to pesticides.

(1) The DA Pesticide Monitoring Program objective is to promote the use of pesticides within an integrated pest management framework and ensure the use and disposition of pesticides in a safe manner with minimal health or environmental effect.

(2) USACHPPM activities supporting pesticide monitoring include—

(a) Investigation of all alleged hazardous incidents resulting from the use or disposition of pesticides. When requested, USACHPPM can conduct scheduled repetitive environmental sampling and analysis for pesticides.

(b) Specific pesticide monitoring activities in support of national pesticide monitoring efforts.

(c) Periodic evaluation of Army pesticide monitoring data to determine common factors that will help implement improved procedures.

(d) Analysis of human red blood cells to determine potential exposure to cholinesterase inhibiting pesticides. Specimens should be collected and sent through AMEDD facilities.

n. Pest control materiel.

(1) Equipment and devices for use in Army pest management operations are listed on the AFPMB Web site (<http://www.afpmb.org/>). Use of any other equipment or devices must be approved according to procedures established in AR 200-5, the Army implementing publication for DODI 4150.7.

(2) Use only dispersal equipment that is compatible with the pesticide formulation being applied. Clean, maintain, and calibrate equipment regularly. USACHPPM can provide technical assistance in the calibration of ultra-low volume equipment and droplet size determination.

(3) Do not store pesticide solutions in dispersal equipment for more than 24 hours. Do not dump rinse water from spray equipment into a sanitary sewer. Use such rinse water as a diluent for subsequent spraying operations, or treat it as a pesticide-related waste and dispose of it according to current Federal, state, or host country requirements.

(4) Pesticide applicator personnel must dispose of all pesticides and containers in accordance with all applicable U.S. and/or host nation laws during military contingency operations, readiness training exercises, and deployments.

o. Retrograde materiel treatment. Retrograde programs are essential to prevent the importation of pests of medical or agricultural importance into the U.S., its territories, trusts, and possessions. The medical commander or preventive medicine representative responsible for the operation of retrograde programs ensures the full implementation of AFPMB TG 31. (See AR 40-12/SECNAVINST 6210.2A/AFR 161-4.)

p. Contingency pest management. Use the following procedures during contingency operations, readiness training exercises, deployment operations, and pest management operations performed by contractor personnel:

(1) *Pesticide procurement.* During deployment operations, pesticides may be locally procured according to the following instructions:

(a) Only those pesticides listed on the DOD Contingency Pesticide List can be used during contingency operations, except where an emergency exists, as determined by the task force commander. During emergency conditions, pesticides may be procured locally with the proper approval. (The DOD Contingency Pesticide List is available at the following Web site: http://www.afpmb.org/coweb/guidance_targets/ppms/ContingencyPesticideList.pdf.)

(b) Individuals designated as professional pest management personnel by the task force surgeon (DODI 4150.7), approve in writing any local procurement of EPA-registered pesticides.

(c) Obtain approval from the AFPMB, professional pest management personnel and the task force surgeon for local procurement of any pesticides that are not EPA-registered, but that have active ingredients and formulations listed on the DOD Contingency Pesticide List.

(d) Requests for local procurement of pesticides which are not EPA-registered, and which have active ingredients or formulations that are not listed on the DOD Contingency Pesticide List, are forwarded for approval to the AFPMB (CLO), Forest Glen Section, Walter Reed Army Medical Center, Washington, DC 20307. Such requests should be forwarded by professional pest management personnel and the task force surgeon.

(e) Under no circumstances will pesticides be procured that contain active ingredients that are not registered by the EPA for use in the United States.

(2) *Pest management records and reports during contingencies.*

(a) Record in the Integrated Pest Management Information System (IPMIS) all pesticide applications by Active and Reserve Component preventive medicine sections/units and/or logistics civil augmentation program pest control contractor personnel or other contractor personnel during contingency operations, except arthropod skin and clothing repellent applications; IPMIS is the DOD system for managing pest management operations. If this is not possible, record the same information in the unit logbook, staff journal, or in a similar expedient manner. However pesticide use is initially recorded, report it monthly for inclusion on DD Form 1532 (Pest Management Report) and subsequent archiving.

(b) Required information includes—

1. Date of application.
2. Site of application (specific building or area).
3. Target pest.
4. Pesticide used (product or brand name).
5. Active ingredients and their EPA registration numbers.
6. Percent of each active ingredient.
7. Amount of pesticide concentrate used for mixing.
8. Applicator's name.
9. Applicator's unit.

(c) Send pesticide usage reports from IPMIS to USACHPPM monthly for archiving (Pesticide.Archival@apg.amedd.army.mil). Deployed units that do not have a functional IPMIS are requested to use DD Form 1532-1 (Pest Management Maintenance Record) or a computer-generated equivalent. Units are to provide a copy to their chain of command for information purposes.

(d) Report all CONUS pesticide use during readiness training to the installation pest management coordinator for inclusion in the monthly installation pest management report.

(e) Unit-level FSTs using pesticides approved according to FM 4-25.12 are not required to comply with the above reporting requirements. Unit-level FSTs using pesticides not approved according to FM 4-25.12 are required to comply. However, all pesticide use by unit-level FSTs is to be documented in the unit journal according to the guidance provided in FM 4-02.17.

q. Pest management in sensitive areas.

(1) Pest management in Army food handling establishments.

(a) Apply installation pest management program principles and measures in food handling establishments. At no time are pesticides to be applied in a food-handling establishment without surveillance data documenting the pest infestation and without implementation of proper sanitation practices by the establishment staff. The medical commander assesses the effectiveness of chemical control measures, and the results are conveyed to the pest control activity. Additional guidance on pest management operations in food handling establishments is provided in TB MED 530.

(b) Pesticide applicators coordinate with food service personnel to ensure the safety, effectiveness, and efficiency of the pesticide treatment. Pesticide treatments are conducted only when the food preparation area is not in operation and are used according to the pesticide label precautions. Do not use automatic aerosol pesticide dispensing devices in food serving or preparation areas. Insect electrocutors or sticky fly papers may be located in nonfood areas of food handling establishments, provided that their use is in a manner that will preclude contamination of any food or food-contact surfaces and their use is not in lieu of proper sanitation. Do not store pesticides, except disinfectants, in food serving facilities.

(2) Pest management in Army MTFs.

(a) Conduct pest management in MTFs through timely surveillance and procedures that maximize the use of nonchemical techniques to limit the use of pesticides. Preventive medicine personnel should investigate pest problems and determine appropriate pest management procedures. The guidance available in AFPMB TG 20 should be followed to the maximum extent possible.

(b) No area within the MTF should receive scheduled preventive pesticide treatments but should be treated only when an active infestation is evident and nonchemical control methods have failed. Do not apply pesticides while patients, MTF personnel, or sensitive equipment are in the immediate area. All pesticide applications within MTFs must be included in the installation pest control summary report.

(c) Pest management in food service areas is addressed in paragraph 4-7q(1), above. Cockroach infestations in portable food carts are difficult to control. Routine procedures for either nonchemical or chemical control consist of numbering carts and subjecting them to the treatment of choice on a regularly scheduled basis. Carts treated with nonresidual pesticides must not be used to transport food to patients until the carts have been steam cleaned or sterilized. Never apply residual insecticides to food carts because of the potential of contaminating food items. Technical assistance in controlling cockroaches in food carts may be obtained from USACHPPM.

(3) Pest management in child care facilities.

(a) Manage pest infestations according to the installation pest management plan.

(b) Have the installation health consultant or safety officer approve and inspect pest control operations.

(c) Limit the use of pesticides with timely surveillance and pest management procedures that maximize the use of nonchemical techniques.

(d) Do not apply pesticides when children are present. Remove children and their toys from the area to be treated and keep them away as long as is recommended by the label or, at a minimum, until the pesticide has dried.

(e) Do not apply pesticides to surfaces where children are likely to have contact.

(f) Never place insect bait where children can get to it.

(g) Use tamper-resistant bait stations when applying rodenticides.

(h) Do not use chemical herbicides for weed control in children's outdoor play areas.

4-8. Solid waste

a. The DA objective is to manage Army solid waste according to applicable Federal, state, local, and DA regulations. Additionally, Army installations must develop and execute integrated solid waste management plans that include source reduction, recycling, handling, and disposal.

b. Facilities engineers on an Army installation prepare appropriate permit applications and manage solid waste recycling, storage, collection, transportation, and disposal.

c. Preventive medicine personnel support the management of Army solid waste in the following areas:

(1) Integrated solid waste management plans. Technical information for preventive medicine personnel can be found at the following USACHPPM Web site: <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG197.pdf>.

(2) Solid waste characterization surveys and identification and evaluation of source reduction and recycling opportunities.

- (3) Affirmative procurement programs following Federal comprehensive procurement guidelines.
- (4) Field assessments of onpost landfills, construction and demolition debris landfills, and other land disposal facilities to evaluate compliance with regulatory operating, monitoring, and closure requirements.
- (5) Waste management plans and pollution prevention plans for MTFs.
- (6) Support for field investigations of disposal sites, construction site clearances, soil sampling, laboratory waste stream characterizations, spill evaluations, and risk communication needs.
- (7) Waste management training and assistance visits to MTF personnel.
- d. Installation preventive medicine personnel evaluate community complaints and provide health and welfare recommendations to the facilities engineers.

4-9. Hazardous waste

a. The principal objective of hazardous waste management in the Army is to manage such wastes in a manner that is protective of human health and the environment. Appropriate Federal, state, local, DA, and OCONUS FGS or Status of Forces Agreement (SOFA), OEBCD, and host nation regulations (DODI 4715.5) govern all Army hazardous waste management activities and procedures.

b. Installation preventive medicine personnel—

- (1) Provide technical assistance to—
 - (a) Identify potential health effects.
 - (b) Identify unknown waste.
 - (c) Select and evaluate storage methods.
- (2) Advise hazardous waste generators on how to reduce the amount of waste.
- (3) Ensure the segregation of radioactive waste from nonradioactive waste.
- (4) Assist installation commanders and public affairs officers in health risk communication.

4-10. Groundwater and subsurface release of hazardous constituents

a. The DA objective is to safeguard groundwater resources and to identify the existence, magnitude, and extent of hazardous constituents in the groundwater to protect human health and environmental quality.

b. Facilities engineers on an Army installation identify, define, and remediate the impact of releases to the subsurface environment.

c. Preventive medicine personnel assist in minimizing the impact of release of hazardous chemicals and materials to groundwater with—

- (1) Installation or facility-wide field assessments to identify all existing and potential sources of subsurface and groundwater contamination, to include environmental baseline surveys for real property transactions.
- (2) Field studies to define the magnitude and extent of soil and groundwater contamination with emphasis on human receptor pathways.
- (3) Quick response advice or field assistance relating to contaminant releases or groundwater quality monitoring.
- (4) Monitoring the decommissioning for wells no longer used for groundwater quality testing and wells that threaten groundwater quality by allowing surface contamination to enter the aquifer.
- (5) Assessments of health risks to soldiers, workers, and the general public who may be exposed to potentially harmful soil or groundwater from installation activities.
- (6) Assistance to installation commanders and public affairs officers in health risk communication.

4-11. Regulated medical waste

a. The principal objective of RMW management in the Army is to manage such wastes in a manner that prevents disease and injury. Such wastes are also regulated to comply with appropriate Federal, state, local, DA, and OCONUS FGS or SOFA, OEBCD, and host nation regulations (DODI 4715.5).

b. The preventive medicine service has joint responsibility with other organizational staff offices within the health care facility for the effective management of the RMW program. The preventive medicine service prepares local regulations and monitors the timely collection, transportation, treatment, storage, and disposal of RMW.

c. Health care facility personnel confirm the proper handling, identification, segregation from all other waste streams, transport, and treatment of RMW to prevent the potential release or spread of microorganisms. MEDCOM Regulation 40-35 contains further information.

d. Guidance for management of RMW in the field can be found in chapter 3 of this pamphlet.

4-12. Waste disposal guidance

a. Manage hazardous and nonhazardous wastes to protect human health and the environment. Manage radiological wastes to comply with the specific U.S. Nuclear Regulatory Commission (NRC) licenses, Army Radiation Authorizations (ARAs), 10 CFR 20 and AR 11-9.

b. Installation preventive medicine personnel conduct the following activities to assist in the safe management of Army wastes.

(1) Reviewing and following disposal guidance provided in the Military Item Disposal Instruction (MIDI) database (available on CD-ROM). E-mail requests may be sent to the USACHHPM MIDI team at USACHPPM-MIDI@apg.amedd.army.mil.

(2) Reviewing and following disposal guidance for radioactive waste provided in AR 11-9.

(3) Providing technical assistance when requested to health care facility personnel and to installation personnel in reviewing disposal guidance for conformance to state and local regulations.

c. The following activities, conducted by USACHPPM, can assist those responsible for waste disposal:

(1) Maintaining and disseminating disposal guidance for items used within the DOD.

(2) Providing guidance as requested for disposal of items not found in the MIDI system and updating the database accordingly.

(3) Reviewing and updating disposal guidance in the MIDI database to reflect changes in disposal due to Federal regulatory changes and changes in disposal technologies.

(4) Providing technical assistance with disposal issues.

4-13. Spill control

a. Spill control procedures prevent the discharge of oil, fuels, and other hazardous substances into the environment, and help to promptly contain and neutralize such spills.

b. Installation preventive medicine personnel conduct the following activities to assist in the prevention and control of spills:

(1) Reviewing the status of control measures to confirm that the status complies with health aspects of regulatory agency guidelines.

(2) Providing technical assistance concerning control, containment, and neutralization as appropriate.

(3) Assisting installations in preparing spill prevention control and countermeasure plans, installation spill contingency plans, and risk communication strategies.

4-14. Air quality

a. Air quality programs and services are provided to protect human health and the environment and to assure compliance with appropriate Federal, state, local, DA, and OCONUS FGS or SOFA, OEBGD, and host nation regulations (DODI 4715.5).

b. Preventive medicine personnel help to minimize Army air pollution emissions and their harmful effect with—

(1) Programs and services to ensure military training, operations, and processes are conducted in a manner that minimizes health and environmental impacts from air pollution emissions.

(2) Assessments of health risk to soldiers, workers, and the general public who may be exposed to potential air pollution emissions from soldier training and installation operations and processes.

(3) Identification of air pollution emission sources, and quantification of air pollutant levels for health risk determinations and compliance with health-based air quality standards. These services include air quality sampling, air dispersion modeling, air pollution emission inventories, source (stack) emission testing, toxic release inventories, permit assistance, and general consultations.

(4) Evaluation of processes that may cause a catastrophic release of chemicals and in the preparation of risk management plans as required by section 112(r) of the Clean Air Act Amendments of 1990.

(5) Pollution prevention services to determine alternate processes, methods, and products that promote the minimal practicable air pollution emissions from Army installations.

(6) Support to the Army chemical agent and conventional ammunition demilitarization programs in documenting potential levels of air pollutants generated from storage and disposal operations.

(7) Support to commanders and public affairs officers in health risk communication.

c. Installation preventive medicine personnel help to minimize Army air pollution emissions and their harmful effect with—

(1) Evaluation of proposed and existing air pollution sources that may present a potential for adverse health impact or violation of air pollution emission standards.

(2) Investigation of complaints of exposures to air pollution emissions and coordination of further evaluation with installation facility engineering and environmental management personnel.

(3) Risk management planning for processes that are covered by section 112(r) of the Clean Air Act Amendments of 1990.

(4) Development of air pollution emergency episode plans per applicable air pollution control regulations. (Preventive medicine personnel assist installation environmental personnel in performing this procedure.)

(5) Support for the implementation of the Army Radon Program, as described in AR 200-1 and DA Pam 200-1.

- (6) Support to installation commanders and public affairs officers in health risk communication.

4–15. Environmental noise

a. Environmental noise consists of sound levels below the threshold for permanent hearing loss and above the threshold for other adverse health effects. These other adverse health effects include (but are not limited to) excess stress hormones, learning and attention deficits (especially in children), cardiovascular effects, sleep disturbance and general nervousness. Populations served by Army environmental noise management activities include—

- (1) Occupants of Army family housing.
- (2) Workers in military offices and other noise-sensitive spaces.
- (3) People living in the vicinity of military ranges and airfields.
- (4) Deployed troops.
- (5) Patients in military medical facilities.
- (6) Threatened or endangered species on military training lands.

b. The Army implements the DOD approach of long-term planning to prevent environmental noise problems. This approach is intended to protect community health and welfare without impairing mission or readiness. Army policy and responsibility for environmental noise management are contained in AR 95–1, AR 200–1, AR 210–20, and AR 210–21. DOD considers land to be acceptable for noise-sensitive uses as long as the day-night average sound level (DNL) is below 65 decibels, A-weighted (dBA). Buildings exposed to a DNL between 65 and 75 dBA are considered acceptable if their interior noise meets the following guidelines.

Table 4–1
Acceptable building interior sound levels

Activity	All Noise Sources L_{eq}^2 (dBA)	Continuous Interior Sources ¹ L_S^3 (dBA) ⁴
Sleeping	45	40
Other Residential Activities (Conversations, Radio, TV Listening, and so forth)	50	40
Classrooms, Libraries, Churches, Hospitals	50	40
Offices – Private, Conference	45	40
Offices/Work Spaces, Telephone Use Satisfactory	55	45
Work Spaces – Occasional Speech Communication or Telephone Use	60	55
Work Spaces – Infrequent Speech Communication, Telephone Use Infrequent	70	60

Notes:

¹ Typically, ventilation systems and mechanical equipment in near-continuous operations.

² L_{eq} is equivalent noise level.

³ L_S is sound level measured with slow weighting of the meter.

⁴ The L_S value is given in terms of A-weighted noise level. The approximate noise criteria (NC) curve values are 8 decibels (dB) less than the A-level values.

c. Army preventive medicine personnel contribute to the assessment and control of environmental noise by—

- (1) Representing the Army on national and international committees setting standards for interpreting the psychophysiological effects of military noise.
- (2) Participating in the Defense Environmental Noise Working Group, thereby providing input to the Senior Readiness Oversight Council.
- (3) Providing Army installations with noise contour maps for use in Deployment Environmental Health Surveillance, community outreach, encroachment management, installation sustainment, and NEPA decisions (42 USC 4321 d).
- (4) Providing technical oversight and quality assurance for noise contour maps produced by Army contractors.
- (5) Coordinating with the Army Construction Engineering Research Laboratory in improving the accuracy and quality of environmental noise prediction software.

- (6) Serving as the technical transfer agent for environmental noise management products developed at the Army Construction Engineering Research Laboratory, other military laboratories and by military contractors.
- (7) Providing acoustical engineering consultations for environmental noise mitigation.
- (8) Providing training classes in environmental noise management.
- (9) Maintaining an acoustical equipment pool and technical expertise to conduct environmental noise measurements at military installations.
- (10) Providing expert testimony in public meetings and litigation.
- (11) Writing installation environmental noise management plans.
- (12) Assisting installations in the development of community noise monitoring systems.
- (13) Evaluating noise exposures in military medical facilities.
- (14) Providing acoustical engineering review of architectural plans for new MEDCOM facilities.
- (15) Providing information about the effects of military noise on the health of domestic and wild animals.
- (16) Assisting commanders and public affairs officers with health risk communication.
- d. Installation preventive medicine personnel contribute to the assessment and control of environmental noise by—
 - (1) Assisting installation personnel in distinguishing between occupational and environmental noise exposures.
 - (2) Conducting noise dosimetry as needed.

4-16. Climatic injury prevention and control

a. Introduction.

(1) Climatic injuries include heat injuries, cold injuries, and high altitude sickness. Such injuries may be present as isolated events or be of epidemic proportions with significant military operational impact. Other environmental conditions based on specific areas of operations and scenarios may require additional preventive interventions. Examples include vision protection against excessive glare; skin, eye, and respiratory tract protection against wind or excessive dust or sand; and eye and skin protection from the ultraviolet radiation from the sun.

(2) Climatic injury prevention and control requires a comprehensive approach that incorporates health education; training; personal protection; published guidance; risk assessment; and appropriate adjustment activities, to include acclimatization to hot environments. Monitoring environmental conditions is critical.

(3) Commanders and leaders can reduce morbidity in their commands through early recognition of climatic injury hazards and symptoms and prompt implementation of preventive measures.

b. Functions.

(1) The following functions, carried out by all commanders and their staffs, are fundamental to the prevention and control of climatic injuries:

(a) Providing protective clothing, equipment, supplies, and facilities (other than medical) to prevent climatic injuries from occurring.

(b) Implementing heat and cold injury prevention programs according to guidelines in TB MED 507/AFPAM 48-152 (I) and TB MED 508, respectively.

(c) Monitoring environmental conditions at troop locations with assistance from medical authorities.

(d) Enforcing mandatory work/rest cycles based on environmental conditions in training environments and where allowed in operational missions.

(e) Investigating all reportable heat and cold weather injuries to identify lapses in prevention programs and program areas that need improvement.

(2) Medical commanders and their preventive medicine staffs assist commanders in climatic injury prevention and control by—

(a) Recommending individual or environmental protective measures to commanders and leaders.

(b) Reporting heat and cold weather injuries through the RMES Web site (<http://amsa.army.mil>).

(c) Investigating clusters or severe cases of heat or cold weather injuries.

c. *Heat injuries.* Basic heat injury prevention and control involves heat injury prevention training; appropriate acclimatization, hydration and nutrition; work/rest cycles; clothing for missions and training; and the early detection and management of signs and symptoms of heat injuries. Individual and unit leader guidance is provided in FM 8-55 and FM 21-10/MCRP 4-11.1D. Additional technical guidance is provided in TB MED 507/AFPAM 48-152 (I), through U.S. Army Research Institute of Environmental Medicine (USARIEM) Technical Notes, and in TRADOC Regulation 350-29.

d. *Cold weather injuries.* Basic cold weather injury prevention and control involves cold injury prevention training; appropriate clothing, hydration and nutrition; risk assessments of operations relative to the windchill index; and the early detection and management of signs and symptoms of cold weather injuries. Individual and unit leader guidance is provided in FM 8-55 and FM 21-10/MCRP 4-11.1D. Additional technical guidance is provided in TB MED 508, through USARIEM Technical Notes, and in TRADOC Regulation 350-29.

e. *High altitude-related illnesses.* Basic high altitude illness prevention and control involves altitude illness prevention training; appropriate acclimatization; the use of chemoprophylactic medications when appropriate; and the early

detection and management of signs and symptoms of high altitude illness. Prevention of altitude sickness is best achieved through medical screening (AR 40–501) and acclimatization to altitude. Technical guidance is provided in TB MED 288 and through USARIEM Technical Notes.

4–17. Sanitation and hygiene

a. Introduction. The goals of sanitation and hygiene activities in the Army include safeguarding the health of soldiers, civilian and contractor employees, and other eligible beneficiaries; reducing incidence of communicable diseases; and improving mission readiness. The provisions in this paragraph cover a wide variety of small operations and activities that are used by soldiers and beneficiaries. Sanitation and hygiene programs and services are based on—

- (1) Identifying and controlling communicable disease hazards.
- (2) Providing adequate housing, child care facilities, recreation, and laundry operations.
- (3) Maintaining Army facilities in clean sanitary condition to reduce spread of communicable diseases.

b. Functions.

(1) Installation commanders contribute to improved sanitation and hygiene through—

(a) Responsible staff officer oversight of troop and family support operations including troop and family housing, mobile home parks, recreational areas and facilities, food establishments as defined in TB MED 530, laundry and dry cleaning operations and other operations that affect health. On-post military housing includes those housing units that are privatized.

(b) Disciplinary control board activities to evaluate any off-post facilities that present a potential threat of communicable and infectious disease for service personnel and their families. This board may include representatives of preventive medicine, the Judge Advocate General, military police, and other appropriate staff and community representatives. The scope of the responsibilities of the disciplinary control board includes protecting soldiers and their families against communicable and infectious diseases.

(c) Compliance with and supervision of compliance by staff with the implementation of the food sanitation requirements in TB MED 530.

(2) The medical commander supervises and resources the preventive medicine portions of the sanitation and hygiene programs including the food sanitation program, recreation and sports and fitness facilities, and housing sanitation.

(3) Preventive medicine personnel support Army objectives for sanitation and hygiene by providing the following services:

(a) Risk-based sanitation and hygiene programs that emphasize training and health education while providing adequate on-site evaluations or surveys to alert the medical commander of any health hazards.

(b) Review and approval of operating instructions, SOPs, and other documents dealing with the sanitary operation of these facilities.

(c) Food service facility inspection information provided annually to the installation point of contact (usually one of the installation resource management staff) for the part III portion of the formal installation status report.

(4) Individual unit commanders and staff officers maintain and operate facilities in a clean, safe, hygienic condition.

c. Programs and services.

(1) *Troop housing sanitation.*

(a) Consider the provision of adequate floor space, temperature control, lighting, ventilation, humidity control, and adequacy of latrine and hand-washing facilities as important health and safety factors for bachelor officer quarters and bachelor-enlisted quarters. Location and construction of new installations and buildings or renovation of existing facilities offer a unique opportunity to provide a healthy and sanitary environment.

(b) Installation preventive medicine personnel can, when requested, assist the installation housing office in the evaluation of on-post quarters. Appendix D provides additional guidance for troop housing sanitation.

(2) *Barber and beauty shops.* Sanitary requirements for barber and beauty shops are detailed in appendix E.

(3) *Dry cleaning operations.* Guidance related to customer-operated and commercial dry-cleaning operations can be obtained from the Commander, USACHPPM, ATTN: MCHB–CS–OSD, Aberdeen Proving Ground, MD 21010–5403.

(4) *Mobile home parks.* Sanitary requirements for mobile home parks are described in appendix F.

(5) *Child development services facilities.*

(a) AR 608–10 contains guidance relative to the sanitary requirements for child development services (CDS) facilities.

(b) Preschool children in CDS facilities are classified as a high-risk population for foodborne illnesses. Requirements for CDS food service are contained in AR 608–10 and TB MED 530.

(6) *Recreational areas.*

(a) Construct and operate recreational areas in a safe and sanitary manner. Provide adequate protection for the environment in the design, construction, and operation of recreational areas.

(b) A comprehensive pre-site selection of recreational areas is required. General requirements for site selection and development are outlined in TM 5–803–12. Additional guidance is presented in appendix D.

(7) *Laundry operations.*

- (a) Design and operate fixed laundry operations according to AR 210–50.
- (b) Design and operate field laundry operations according to FM 42–414.
- (c) Laundry operations should follow commercial laundry processes.
 - 1. Use bleach and/or chemical detergent/sanitizers for laundry with high potential levels of microorganisms, such as gym towels and clothing, and laundry from transient quarters, refugee camps, disaster relief operations, prisons, and field operations.
 - 2. Design and test new field laundries to allow for the washing of field uniforms without the use of bleach. The medical commander or preventive medicine representative determines if chemical sanitizers/bleach are required for specific field laundry operations.
- (8) *Confinement facilities.* Sanitary inspection requirements for Army detention and confinement facilities are outlined in AR 190–47.
- (9) *Food service sanitation.*
 - (a) Provide quality food service at all levels of command. The scope of Army food service is defined by TB MED 530 to include all food operations within the Army and areas under its control.
 - (b) The essential elements for Army food service sanitation are described in TB MED 530. Additional guidance on field food service operations is presented in FM 4–02.56 and FM 21–10/MCRP 4–11.1D.
 - (c) Preventive medicine personnel provide sanitary inspections of Army food service operations, including cook-chill operations as defined in TB MED 530. Commissary and troop issue subsistence activities, including delicatessen operations in commissaries and storage of food in Army food service operations, are the responsibility of the supporting veterinary activity.
- (10) *Sports facilities, gymnasiums, and fitness centers.* Sanitary requirements for sports facilities, gymnasiums and fitness centers can be found in appendix D.
- (11) *Tattooing and piercing businesses.*
 - (a) Tattooing and application of permanent makeup is prohibited on Army installations.
 - (b) When these operations are legal and operating off the installation, the preventive medicine service coordinates with the local health department having jurisdiction and conducts joint inspections for safety, cleanliness and sterilization of needles, control of bloodborne pathogens and spread of infectious disease organisms including HIV and hepatitis.
 - (c) The preventive medicine service recommends the commander place “off-limits” any facility that presents a health risk to service personnel. Specific information can be obtained by contacting the USACHPPM (MCHB–CS–OSD), Aberdeen Proving Ground, MD 21010–5403.

Chapter 5 Occupational Health

Section I The Army Occupational Health Program

5–1. Introduction

- a. The Army Occupational Health Program consists of occupational illness and injury prevention and control programs and services provided by a variety of professional disciplines. These programs and services are necessary to anticipate, identify, assess, communicate, mitigate and control occupational disease and injury threats to Army personnel. These threats may occur in a standard worksite or a deployed setting and may include chemical, biological, radiological, psychological and physical hazards. Occupational health services provided are tailored to the hazards that are anticipated or identified for the defined population with a focus on prevention.
- b. The Army Occupational Health Program includes services that promote the health and safety of the individual, the unit, the workplace, and the community. Services may focus on education regarding hazards, or medical surveillance to facilitate early detection of adverse outcomes associated with the occupational environment. In the event that adverse injury or illness outcomes occur, services aim to restore health and productivity. These services may be individual, unit-based or population-based.
- c. The Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health provides policy, goals, guidance, and management oversight of the Army Occupational Health Program, as the Army component of the DOD Safety and Occupational Health Program.
- d. The objectives of the Army Occupational Health Program are to—
 - (1) Ensure that Army personnel are physically, mentally, and psychologically suited to their work at the time of their assignment, and that physical and behavioral health are monitored to detect early signs of job-related injury or illness.

(2) Protect Army personnel from adverse effects of health and safety hazards in the work environment to include field operations, garrison, industrial, and administrative workplaces.

(3) Ensure proper medical care, rehabilitation, and return-to-duty programs for the occupationally ill and injured.

(4) Reduce loss (manpower and economic) caused by occupationally related injuries and illnesses of Army personnel.

(5) Prevent decreased combat readiness caused by occupational illness and injury of Army personnel throughout the full spectrum of military operations.

e. Programs and services include, but are not limited to—

(1) Medical surveillance examinations and screenings.

(2) Health hazard education.

(3) Surety programs.

(4) Reproductive hazards.

(5) Bloodborne pathogens.

(6) Hearing conservation and readiness.

(7) Vision conservation and readiness.

(8) Workplace epidemiological investigations.

(9) Ergonomics.

(10) Radiation exposure and medical surveillance.

(11) Industrial hygiene.

(12) Personal protective equipment.

(13) Respiratory protection.

(14) Asbestos exposure control and surveillance.

(15) Injury prevention and control.

(16) Occupational illness and injury prevention and mitigation.

(17) Work-related immunizations.

(18) Record keeping and reporting.

(19) Worksite evaluations.

(20) Other Federal programs.

(21) Evaluation of occupational health programs and services.

f. The control of exposures to known occupational hazards utilizes a hierarchy of control, with the use of personal protective equipment as the least preferable solution.

g. As the basis of Army occupational safety and health criteria, the provisions of the Occupational Safety and Health Act and the regulations, standards, and criteria promulgated by the Occupational Safety and Health Administration (OSHA) are followed. The Federal regulations promulgated by the NRC (10 CFR), the FDA (21 CFR) and the Department of Transportation (49 CFR) set additional standards and requirements for ionizing and nonionizing radiation. The current American Conference of Governmental Industrial Hygienists (ACGIH®) threshold limit values (TLVs®) are the criteria that apply within the Army when OSHA standards are less protective or no OSHA standards exist. AR 11–9 establishes the exposure standards for both ionizing and nonionizing radiation. When other alternate or supplemental criteria are necessitated by military uniqueness, existing standards and regulations are followed until justification is forwarded through command channels and OTSG approval is obtained.

h. ACGIH® and TLV® are registered trademarks of the American Conference of Governmental Industrial Hygienists, Cincinnati, Ohio.

5–2. Medical surveillance examinations and screenings

a. *Introduction.* The primary purpose for developing a medical surveillance program is to implement risk-based medical screening or examination for Army personnel. The primary focus is early detection of occupational diseases or illnesses that may be associated with work tasks or workplace exposures of a physical, chemical, biological, or radiological nature. Secondary purposes include—

(1) Documentation of occupational exposures for use as a part of the post-deployment and post-service medical assessments, medical studies, and health risk assessments.

(2) Evaluation of the effectiveness of protective and risk mitigation procedures.

(3) Provision of health risk information useful for commanders in deployed settings for assessing occupational health risks posed by military operations.

b. *References.* AR 40–5 directs the implementation of the DOD Occupational Health Manual (DOD 6055.5–M). Other references that provide policy, guidance, and information regarding job-related examinations are as follows:

(1) *Title 5 CFR 339.* Title 5 CFR 339 provides the requirements and procedures concerning medical qualification determinations, including medical standards, authority to require and offer examinations, medical evaluation programs, and waiver procedures.

(2) *Title 5 CFR 930.108.* Title 5 CFR 930.108 provides requirements and procedures for periodic medical evaluations.

(3) The U.S. Office of Personnel Management Operating Manual, section VI. This section provides a summary of the occupational series with medical requirements.

(4) Title 29 CFR 1910.

(5) AR 11–34.

(6) DA Pam 40–501.

(7) DA Pam 40–506.

(8) TB MED 509.

(9) TB MED 510.

(10) TB MED 523.

(11) TB MED 524.

(12) AR 11–9 (MEDCOM Regulation 40–42 for MEDCOM-specific guidance).

c. Procedures.

(1) The medical practitioner must know the person's job title, the type of work performed, and individual exposures. Components of the medical surveillance for any Army personnel are based on data characterizing the exposure, recommended or required items related to that hazard, and sound medical judgment. Industrial hygiene data is critical to separate potential exposures from actual exposures. The designated occupational health physician reviews the industrial hygiene data and regulatory requirements annually and when operations change to determine the scope and frequency of work-related medical examinations. Medical judgment synthesizes the total exposures, individual risk factors, job demands, and stresses.

(2) Determining evaluation content and developing protocols.

(a) Installation occupational health and safety personnel are jointly responsible for identifying work areas where workers need medical examinations because of specific hazardous exposures. Local occupational medical personnel establish examination content and frequency based on an understanding of the job demands, exposures to the workers, the medical effects of specific exposures, the impact of specific medical conditions on job performance and safety and legal and regulatory requirements.

(b) Examination protocols may include employee health promotion and personnel programs. Local medical personnel must be aware of collective bargaining agreements and support agreements that entitle specific employee groups to health benefit programs or other medical benefits. If medical examinations are deemed inappropriate or of little value, documentation of the rationale used in making the decision will be maintained locally.

(3) Industrial hygiene data is essential to determine potential and actual exposures. Occupational health personnel use such data in reviewing changes in operations. Occupational health personnel also use this data for their annual reviews of regulatory requirements and policies to determine the scope and frequency of work-related examinations.

(4) A follow-up system should be implemented for all health examination and screening programs to identify and report their effectiveness and to assure indicated counseling and referral.

(5) Termination examinations are provided on termination of assignment or termination of employment for all employees who have been included in a periodic job-related medical surveillance program, unless an examination has been conducted within the past 90 days. The 90-day exception does not apply in cases where the content of the periodic examination differs from the termination examination (for example, high-risk microwave or laser workers) or where a more stringent requirement exists.

(6) Military personnel will require further pre-assignment, periodic, pre- and post-deployment follow-up, and termination examinations that are specific for potential chemical, physical, biological, or radiological hazards, in addition to the routine entrance and periodic examinations prescribed by AR 40–501.

(7) Civilian employees assigned to positions requiring specific physical fitness standards are provided examinations in addition to pre-placement, job transfer, periodic, and termination examinations. If necessary, job-related examinations may be made a condition of employment. Employees not required to have pre-placement examinations should be scheduled for baseline health screening evaluations, if resources permit. The baseline examinations may include a health history, blood pressure determination, vision screening, and hearing tests.

(8) Fitness for duty and disability retirement examinations are accomplished following the guidance in 5 CFR 339. DA Pams 40–8 and 40–173 provide guidance for medical examinations for Army personnel potentially exposed to chemical surety materials.

(9) While not a requirement for civilian employees, health maintenance examinations are encouraged, subject to availability of health services resources. Such examinations may include single or multiple disease screening or more detailed medical evaluations, and can be offered on an age-related basis or to specific target groups.

d. Standards and criteria.

(1) Specific exposure standards and criteria are used for occupational health screening and medical examinations. OSHA permissible exposure limits (PELs) are used by the Army except when the current ACGIH® TLVs® are more stringent. Below is a list of governing bodies and organizations that publish standards and criteria with the name of the

respective standards or criteria. AR 11-9 provides exposure and screening standards for ionizing and nonionizing radiation that are based on Federal requirements.

(a) OSHA PELs, 29 CFR 1910.1000, Z tables. PELs are 8-hour time-weighted averages (TWAs). Some chemicals have short-term exposure limits (STELs) and ceiling limits. More information is available at <http://www.osha.gov/>.

(b) ACGIH® TLVs®, current year TLVs® and biological exposure indices (BEIs®). TLVs® are 8-hour TWAs. Some chemicals have STELs and ceiling limits. (These criteria apply to the Army when more stringent than corresponding OSHA standards.) The current version of the TLVs® for chemical substances and physical agents as well as BEIs® can be ordered from the ACGIH®. Ordering information and costs can be found at <http://www.acgih.org/resources>.

(c) NIOSH-recommended exposure limits (RELs), Pocket Guide to Chemical Hazards. RELs are TWA concentrations for up to a 10-hour workday during a 40-hour workweek. Some chemicals have STELs and ceiling limits. NIOSH publications are available at <http://www.cdc.gov/niosh/>.

(d) American Industrial Hygiene Association (AIHA), workplace environmental exposure level (WEEL) guides, which are 8-hour TWAs. Some chemicals have STELs and ceiling limits. Purchasing information for current AIHA emergency response planning guidelines, WEEL guides, and related handbooks is provided through the publications and advertising link on the AIHA Web site: <http://www.aiha.org>.

(2) Additional guidance may be found in DA Pams 40-501, 40-503, and 40-506; TB MED 502/DLAM 1000.2 and TB MED 509; American National Standards Institute (ANSI) Z87.1; National Fire Protection Association (NFPA) standards (<http://www.nfpa.org/Codes/index.asp>); and other Federal standards such as EPA and U.S. Office of Housing and Urban Development standards (<http://www.hud.gov/>) for levels of lead dusts and health hazards.

(3) Clinical medical practices are guided by the CPGs of the American College of Occupational and Environmental Medicine (ACOEM). Purchasing information for ACOEM CPGs may be found through the publications link on the ACOEM Web site: <http://www.acoem.org>.

(4) AR 11-9 and 10 CFR 20 summarize the NRC's allowable level of intake and derived air concentrations to be used in assessing internal ionizing radiation exposures. AR 11-9 also provides guidance for monitoring potential ionizing radiation exposures in declared pregnant personnel.

(5) AR 11-9 summarizes nonionizing radiation exposure limits used in the Army. Personnel radiation exposure standards for lasers are in TB MED 524.

(6) DA Pams 40-8 and 40-173 provide exposure limits for chemical warfare agents.

(7) BEI® is a registered trademark of the American Conference of Governmental Industrial Hygienists, Cincinnati, Ohio.

5-3. Health hazard education

At a minimum, Army personnel must receive training and education in the following areas:

a. *Communication of hazard.* Federal regulations (10 CFR 19, 29 CFR 1910.1030, 29 CFR 1910.1200) and AR 11-9 require all personnel to receive, at a minimum, initial training regarding potential workplace hazards associated with chemicals, ionizing and nonionizing radiation, and bloodborne pathogens, as well as physical hazards associated with chemicals. The training also must include the protective measures to be taken and personal protective equipment to be used to control exposures.

(1) These regulations also require that such information be readily available to Army personnel in the form of MSDSs. If an Army installation is producing a chemical or hazardous material, that installation must provide the appropriate hazard information and communication. Preventive medicine personnel may assist in this training.

(2) Installation safety personnel normally provide hazard communication training. Preventive medicine personnel may assist in this training.

(3) The regulations require additional training when new hazards are introduced into the work environment.

(4) Occupational medicine personnel may assist in the communication of deployment-related hazards post-deployment.

(5) 10 CFR 19, 29 CFR 1910, 49 CFR 172, and NRC licenses have specific training requirements for ionizing and nonionizing radiation hazard communication.

b. *Hearing conservation.* As required by 29 CFR 1910.95, all personnel who work in noise-hazardous areas and operations receive initial and annual training on the effects of noise on hearing, the purpose of hearing protection, the advantages and disadvantages of various hearing protection devices, the mandatory requirement to wear assigned hearing protectors, and the purpose of audiograms. DA Pam 40-501 provides further guidance.

c. *Reproductive hazards.* Federal regulations (10 CFR 19 and AR 40-5) require that individuals (male and female) be informed of the potential adverse health effects (which includes reproductive effects) of exposures to hazards known to have such effects. Title 29, CFR 1910.1200, provides general requirements for hazard communication.

(1) AR 40-501 provides information on profiling pregnant soldiers, limitations to protect their health and the health of the fetus, and profiling postpartum soldiers.

(2) The NRC Regulatory Guide 8.13 and 29 CFR 1910 require that all pregnant personnel (those who officially declare their pregnancies in writing) are to be trained regarding the potential harmful effects of ionizing radiation on

the fetus. DA Pam 40–18/Defense Logistics Agency Instruction (DLAI) 1000.30 provides Army implementing guidance for this requirement.

(3) Title 29, CFR 1910.1025, mandates that training in the hazards of lead include information specific to adverse reproductive effects on both males and females.

(4) AR 40–562/AFJI 48–110/BUMEDINST 6230.15/CG COMDTINST M6230.4E requires counseling of females regarding the safety, benefits, and potential risks associated with immunizations during pregnancy.

(5) Title 29, CFR 1910.1030 addresses hazard communication requirements regarding potential exposure to blood-borne pathogens.

(6) Title 29, CFR 1910.1047 provides specific hazard communication requirements for ethylene oxide hazards, including reproductive hazards.

(7) Title 29, CFR 1910 provides training requirements in addition to general hazard communication information for specific chemicals that are known or potential carcinogens, many of which have been associated with reproductive hazards as well.

(8) Information to assist health care providers in identifying and understanding the reproductive hazards associated with a variety of waste anesthetic gases and hazardous drugs, such as cytotoxic drugs, in MTFs can be found at the following USACHPPM Web site: <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG149.pdf>. The information at this site may assist health care providers in complying with the general hazardous communication requirements of 29 CFR 1910.1200.

5–4. Surety programs

a. Chemical surety, biological surety, and nuclear surety are specialized programs designed to ensure that chemical and biological warfare materials and nuclear material and reactors are handled securely and that personnel working with these materials are protected appropriately. AR 50–5 prescribes the Army Nuclear Surety Program. AR 50–6 prescribes the Army Chemical Surety Program. AR 385–61 establishes and provides guidance for the Army’s Chemical Agent Safety Program. AR 385–69 establishes and provides guidance for the Army’s Biological Defense Safety Program.

b. The medical aspects of these programs include the Personnel Reliability Program, special handling and screening of medical records, and treatment of potential and actual casualties.

c. The Personnel Reliability Program supports the Army’s surety programs. The goal of the Personnel Reliability Program is to ensure that those individuals who have access or control of surety program materials meet the highest standards of reliability and can safely perform their surety program duties. The components of the Personnel Reliability Program include—

(1) Initial screening of medical records.

(2) Evaluation of personnel for evidence of reliability.

(3) Continuing evaluation and periodic screening of personnel performing surety program duties.

d. Additional guidance related to the Army’s surety programs may be found in DA Pams 40–8, 40–173, and 50–6.

5–5. Reproductive hazards

a. Both males and females are vulnerable to reproductive hazards. Some of the potential effects on the male reproductive system include sterility and sperm mutagenesis, both of which can cause infertility. All employees are to be informed about potential work area reproductive hazards. Pregnant employees and their fetuses may require special protection in the work environment. Females who breast-feed their infants and who are exposed to certain chemical hazards should be treated as pregnant employees. Key components of reproductive hazard surveillance and control include:

(1) Identifying work areas or occupations that present potential health reproductive hazards.

(2) Counseling all employees during pre-placement or periodic job-related examinations about the nature of any potential hazards to reproduction.

(3) Informing females about availability of job accommodation or transfer if indicated in the event of pregnancy, as long as the woman declares her pregnancy. Job accommodations, such as transfers, can only occur if the woman declares her pregnancy in writing to her supervisor.

(4) Instituting policy or procedure to ensure prompt notification to the health clinic by pregnant employees as soon as the pregnancy is known.

(5) Assessing the employee’s job assignment and work environment when pregnancy is known.

(6) Providing recommendations to the profiling officer regarding job-related hazards to pregnant active-duty personnel.

(7) Providing periodic follow-up and counseling as indicated including pregnancy outcome evaluation.

b. The employee at risk must be informed and must understand that workplace hazards may include bloodborne pathogens (for example, hepatitis and HIV); airborne infectious diseases such as rubeola, rubella, and varicella-zoster; and other chemical or physical hazards not specified by OSHA. Vibration has been associated with abortions if in the

frequency range of 5 to 10 hertz (Hz). Exposure to the following substances has also been associated with spontaneous abortion:

- (1) Lead (inorganic).
- (2) Ethylene oxide.
- (3) Ionizing radiation.
- (4) Waste anesthetic gases.
- (5) Mercury.

c. Additional guidance may be found in AR 11–9, AR 40–501, TB MED 510, and 29 CFR 1910.

5–6. Bloodborne pathogens

a. The prevention and control of bloodborne pathogen exposure and infections is conducted according to the Federal regulations published in 29 CFR 1910.1030. These regulations apply to all employees with reasonably anticipated occupational exposure to blood and other potentially infectious materials. Exposure risk depends on an employee's job activities, not the physical place of employment. The Morbidity and Mortality Weekly Report (MMWR) from June 29, 2001, published recommendations for managing employees after an exposure. Additional technical information for Army preventive medicine personnel may also be found at the following USACHPPM Web site: <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG190.pdf>.

b. The goal of the program is to limit occupational exposure to blood and other potentially infectious materials that may result in the transmission of bloodborne pathogens that could lead to disease or death.

c. Prevention and control of bloodborne pathogen exposures is accomplished through—

(1) *Employee education and training.* The employer must provide an initial and annual training program to employees at risk of occupational exposure. Training is provided during working hours at no cost to the employee.

(2) *A written program to include an exposure control plan.* A written exposure control plan is required to be established and implemented with procedures aimed at eliminating or minimizing employee exposures.

(3) *Immunizations.* Federal standards require employers to make available the hepatitis B vaccine series to all employees who are at risk for occupational exposure, and provide post-exposure evaluation and follow-up to all exposed employees. Additionally, hepatitis B immunization is mandatory for Army medical and dental personnel hired after 1 January 1997 (Health Affairs Policy 97–006).

(4) *Response to exposures.* Following a report of occupational exposure to blood or body fluids, prompt and confidential medical evaluation with subsequent monitoring of the exposed employee is required. Medical evaluation should occur promptly after an exposure, since post-exposure prophylaxis against HIV and hepatitis B, if indicated, is most effective if administered promptly.

d. Timely reporting and accurate record keeping are necessary for preventing exposures, providing timely and appropriate responses to exposures, and analyzing outcomes and trends.

5–7. Hearing conservation and readiness

a. The Army Hearing Conservation Program is designed to protect hearing through the coordinated application of program elements, procedures, and guidelines published in DA Pam 40–501. The program is implemented through the Defense Occupational and Environmental Health Readiness System (DOEHRS)–Hearing Conservation (DOEHRS–HC) application. Program elements are delineated in DA Pam 40–501.

b. Hearing conservation program managers use the Hearing Conservation Program Evaluation Profile (<http://usachppm.apgea.army.mil/hcp/hcpep>) to annually assess and document the compliance of their local hearing conservation programs with regulatory requirements. The use of this tool supports compliance with 29 CFR 1960.79, subpart J, which requires all Federal programs to perform annual self-assessments of their safety and occupational health programs.

5–8. Vision conservation and readiness

An effective Army Vision Conservation and Readiness Program (VCRP) promotes and optimizes vision and optical readiness. The VCRP is essential to assure a safe and healthful working environment and applies to garrison, field training, and deployment environments. An effective VCRP is implemented and administered using the procedures, principles, and guidance provided in DA Pam 40–506 and 29 CFR 1910 and includes occupational vision, eye safety, and environmental vision components.

5–9. Workplace epidemiological investigations

a. Commonly accepted epidemiological methods and tools are used to investigate incidences of infectious diseases, occupational illnesses, and injuries presumed to be associated with the workplace. Such investigations address both the acute and short-term health outcomes as well as chronic health and reproductive health impacts.

b. Preventive medicine personnel conduct such workplace epidemiological investigations in coordination with safety personnel. These investigations are used to identify, assess, and document trends and analyze the occurrence and incidence of such illnesses and injuries. It is extremely important to determine whether the health outcomes are actual

or perceived. Situations that present an imminent danger to Army personnel are reported through Army safety officials according to AR 385-10.

c. Infectious diseases in workers can affect the incidence and severity of occupational and environmental exposure health outcomes. Consequently, infectious diseases in workers must be considered in analyzing potential OEH hazards as well as investigating noninfectious disease health outcomes. Infectious diseases in workers can also interfere with or mask efforts to detect clusters of noninfectious disease health outcomes. Some infectious diseases may actually be work-related.

d. Effective risk communication is a critical part of any epidemiological investigation of possible workplace infectious diseases, occupational illnesses, and injuries.

5-10. Ergonomics

a. In a memorandum signed on 4 February 1997, the Deputy Under Secretary of Defense (Environmental Security) established the Ergonomics Program interim requirements and procedures for the control of work-related musculoskeletal injury and illnesses. On 18 May 1998, the Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health) signed a policy memorandum outlining the Army's roles and responsibilities. These memorandums directed that, as a minimum, the Ergonomics Program would—

- (1) Interface with existing programs.
- (2) Include a written plan with goals and objectives.
- (3) Address the five critical program elements—workplace analysis, hazard prevention and control, health care management, education and training, and program evaluation. The degree of emphasis on each critical program element varies according to the hazards and concerns at each installation.

b. DA Pam 40-21 provides guidance and procedures for implementing the Army Ergonomics Program.

5-11. Radiation exposure and medical surveillance

a. Introduction.

(1) AR 11-9 provides policy and guidance for a comprehensive Army Radiation Safety Program. The program is directed at safeguarding personnel and property from ionizing and nonionizing radiation hazards.

(2) Radiation sources are identified and exposures prevented or controlled according to the guidance in AR 11-9, DA Pam 40-18/DLAI 1000.30, and TB MED 521. Specific guidance for MEDCOM personnel can be found in MEDCOM Regulation 40-42.

(3) Appendix G provides specific guidance on the control of radiation sources, protective clothing and equipment, radiation detection and measuring equipment, and radiologic facility shielding analysis. For additional standards, criteria, guidance, and procedures for controlling exposures to nonionizing radiation, refer to TB MED 523, TB MED 524, ANSI Z136.1, ANSI Z136.2, ANSI Z136.3, ANSI Z136.6, ANSI B11.21, and Military Handbook (MIL-HDBK)-828A.

b. Functions.

(1) In order to implement the prescribed policies and procedures in AR 11-9, an activity or installation commander who operates, maintains, or stores radiation-producing equipment—

(a) Designates a primary radiation safety officer (RSO) and alternate in writing as required by the applicable NRC license. Though not specifically required by all NRC licenses, designating an alternate RSO is an effective means to ensure program continuity and command and control of radiation sources in the absence of the primary RSO.

(b) Provides the RSO with training, equipment, and support staff commensurate with the extent of their responsibilities.

(c) Designates an on-site RSO for personnel under his or her command assigned to activities at non-Army locations that may involve radiation exposure. The on-site RSO's responsibilities include reviewing safety plans and safety procedures as well as ensuring that those personnel receive proper dosimetry and bioassay support.

(2) Commanders of medical activities with nuclear medicine services provide a full-time RSO who meets the training and experience requirements of 10 CFR 35.

(3) The RSO—

(a) Manages the Radiation Safety Program according to AR 11-9 and other applicable Federal and Army regulations, guidance, NRC licenses, and Army radiation authorization conditions.

(b) Maintains complete program files, including current records of radiation source inventories, SOPs, records of instructions for radiation source users, and all other records required for compliance with applicable Federal, state, and Army regulations.

(4) Commander, USACHPPM, provides technical assistance in the area of radiation safety, specifically to—

(a) Assist Commander, MEDCOM, in conducting triennial evaluations of each installation to ensure compliance with nonionizing radiation safety standards.

(b) Forward bioassay results and radiation dose assessments to the Ionizing Radiation Dosimetry Branch (IRDB),

U.S. Army Primary Standards Laboratory, Test, Measurement, and Diagnostic Equipment, Redstone Arsenal; the licensee (if applicable); the responsible RSO; and the MTF or occupational health clinic.

- (c) Evaluate ionizing and nonionizing radiation sources.
- (d) Provide information and guidance regarding ionizing and nonionizing radiation safety.
- (e) Investigate alleged laser or radiofrequency radiation overexposures.
- (f) Maintain radiation safety reports and surveys.

c. *Licenses and authorizations.* Any organization requiring an NRC license or Army radiation authorization consults with the appropriate MACOM radiation safety staff officer and refers to AR 11–9.

d. *Ionizing radiation exposure surveillance.* Ionizing radiation exposure surveillance is conducted according to AR 11–9, DA Pam 40–18/DLAI 1000.30, and specific NRC license and Army radiation authorization requirements. Appendix G provides more specific guidance. The following Army procedures are necessary to implement established policies for exposure surveillance:

(1) All ionizing radiation exposure information is medical information that relates to the health status of Army personnel and is necessary for current and future health risk assessments. As such, this information will be treated according to AR 40–66.

(2) AR 11–9 provides guidance for determining when external ionizing radiation dosimetry is necessary, including specific guidance for declared pregnant females. Results of this dosimetry provide exposure estimates that are used for medical assessments of risk. The following procedures are necessary for standardized external ionizing radiation dosimetry across the Army.

(a) Army units must use the dosimetry services of the IRDB unless specifically exempted by TSG.

(b) TSG may grant exemptions (for periods up to two years) to use a laboratory or contract service, if the laboratory or contract service can demonstrate compliance with the technical requirements outlined in AR 11–9 and can be appropriately certified to conduct these measurements (for example, certified by the National Voluntary Laboratory Accreditation Program).

(3) AR 11–9 provides guidance for when bio-monitoring of internal ionizing radiation exposure is necessary, including specific guidance for declared pregnant females. The following are established as necessary procedures for standardized internal radiation exposure bio-monitoring across the Army.

(a) When not a regulatory or NRC license requirement, only a trained, privileged provider may approve sample collection for in-vitro bioassay analysis and interpret bioassay results.

(b) Trained medical personnel collect in-vitro bioassay samples according to proper medical sample collection procedures.

(c) In-vitro bioassay samples are sent to USACHPPM for analysis (specific technical information is available at <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG211.pdf>).

(d) TSG may grant exceptions (for periods up to two years) to use another laboratory if the laboratory can demonstrate the ability to perform the bioassay procedures specified in AR 11–9.

(e) All bioassay results (from in-vitro and in-vivo testing) must be placed in the patient's medical record and forwarded to the Army IRDB according to procedures outlined in AR 11–9.

(4) AR 11–9 requires the documentation of dosimeter use and occupationally related ionizing radiation exposure. See DA Pam 40–18/DLAI 1000.30 for detailed guidance on record retention, disposition, transfer and inspection.

(5) Specific items to be placed in personnel medical records include—

(a) Dosimetry and bioassay records as required in AR 11–9, paragraph 5–2.

(b) Results of ionizing radiation dosimetry monitoring. This includes the annual summary of external ionizing radiation exposure, results of in-vitro and in-vivo bioassays, and the assignment of administrative doses.

(c) A chargeout card can be placed in the medical records to indicate the location where current dosimetry records can be reviewed (that is, located in the office of records for the NRC licensee).

(6) The RSO ensures, through participation in the contracting process, that adequate provisions for proper exposure monitoring are included in any contract through which contractor personnel are at risk of radiation exposure.

(7) Contracting agencies that provide dosimetry and bioassay monitoring services for contract personnel provide copies of the results and records to the activity RSO.

e. *IRDB support of ionizing radiation exposure surveillance.* The IRDB provides capabilities essential to ionizing radiation dosimetry in the Army. The IRDB's information, archiving, search, and retrieval functions are the cornerstone of the Army's ability to archive and use ionizing radiation dosimetry data for health risk assessment, management, and communication. These capabilities include—

(1) Providing exposure histories on all Army and contractor personnel to comply with NRC archiving requirements as well as AR 11–9 reporting requirements during deployments and after deployments. The IRDB provides exposure histories when requested by a duly appointed RSO or a medical official when required for official business.

(2) Maintaining data with sufficient detail to allow reporting exposure by individual, by occupational code, and by unit of assignment.

(3) Interfacing with medical surveillance and medical reporting systems so that exposure data can be rapidly shared with medical authorities and authorized VA personnel.

(4) Providing external, internal and total exposure dosimetry and bioassay results. For bioassay results, the IRDB is able to provide the data upon which the exposure analysis is based. The IRDB also provides the basis for administrative doses when such doses are assigned.

f. Ionizing radiation medical surveillance. Routine medical examinations for individuals occupationally exposed to ionizing radiation are usually not necessary. A reported overexposure does not necessarily indicate the need for a medical examination. The circumstances associated with the reported overexposure and the estimated organ or whole-body dose should help determine the type and extent of any examination, as well as the types of laboratory or medical tests.

(1) The supporting medical commander, in consultation with the RSO—

(a) Determines if a medical examination is necessary for individuals occupationally exposed to radiation.

(b) Refers any individual suspected of having received a radiation dose in excess of the limits specified in AR 11–9 to a physician.

(2) The supporting medical commander and the supporting occupational health physician—

(a) Determine the appropriate level of examination and treatment.

(b) Consider the following factors when determining an appropriate medical examination—

1. The total actual or suspected dose.

2. Types of radiation to which the individual was exposed.

3. Portion of the body exposed.

4. Target organ dose.

5. Time elapsed between the exposure and notification.

6. Other appropriate factors.

(c) Ensure that personnel potentially exposed to nonionizing radiation receive appropriate medical examinations as specified in DODI 6055.11 and TSG policy directives.

(d) Ensure that copies of reports documenting reported overexposures are forwarded to USACHPPM for archiving whether or not an actual overexposure occurred. Documenting a determination that a suspected overexposure did not occur is as important as documenting actual overexposures.

g. Nonionizing radiation medical surveillance.

(1) The medical commander and occupational health personnel ensure that personnel potentially exposed to nonionizing radiation receive appropriate medical examinations as specified in ANSI Z136.1, AR 11–9, MEDCOM Regulation 40–42, TB MED 523, and TB MED 524.

(2) No suitable personal dosimeters exist for measuring individual exposures to nonionizing radiation.

5–12. Industrial hygiene

Industrial hygiene consists of the anticipation, recognition, evaluation, and control of those environmental factors and stresses associated with work operations that may cause sickness, impaired health and well-being, or significant discomfort and inefficiency among workers or among the citizens of the community. Industrial hygienists function as a team with the occupational health staff, occupational medicine staff and installation safety. Refer to DA Pam 40–503 for detailed implementing instructions and guidance for industrial hygiene services for the Army.

5–13. Personal protective equipment

a. The use of personal protective equipment is an integral part of the local safety and occupational health program for all soldiers and civilian employees. Industrial hygienists and safety personnel determine when, where, and what type of equipment is used. Individuals who deliberately or carelessly violate regulations regarding the wearing of personal protective equipment may be subject to disciplinary action (AR 690–700).

b. Installation or activity safety personnel, with assistance from local industrial hygiene personnel—

(1) Designate areas requiring the use of personal protective equipment, such as eye-hazardous areas or areas requiring the use of a hard hat.

(2) Ensure that all personal protective equipment is used as required and stored and maintained properly.

c. Occupational health nurses (OHNs) and occupational medicine physicians evaluate the workers' ability to safely wear personal protective equipment.

5–14. Respiratory protection

A respiratory protection program involves much more than issuing a respirator to an employee. The preferred methods to reduce risk of exposure to airborne contaminants are reducing the air concentrations of hazardous substances by substitution with a less toxic substance and engineering and administrative controls. However, when respirators must be used to control exposures, the appropriate respirator must be selected according to the exposure, and must be appropriately fitted to the employee. Qualified medical and safety personnel are essential to an effective respiratory

protection program. The employee must be trained regarding how to use and properly maintain the respirator. Medical clearance is also an essential part of the respiratory protection program. The Army Respiratory Protection Program is described in detail in AR 11–34.

5–15. Asbestos exposure control and surveillance

The MTF commander ensures that occupational health personnel—

- a. Administer medical questionnaires, such as DD Form 2493–1 (Asbestos Exposure, Part I–Initial Medical Questionnaire) and DD Form 2493–2 (Asbestos Exposure, Part II–Periodic Medical Questionnaire), to all employees who—
 - (1) Are potentially or actually exposed to asbestos above the OSHA PEL or above the excursion limit.
 - (2) May be engaged in or should engage in Class I, II, or III asbestos work, as defined in 29 CFR 1910.1001 and 29 CFR 1926.1101.
 - (3) Participate in the installation asbestos management program as outlined in AR 200–1, AR 420–70, and TB MED 513.
- b. Maintain these forms in the civilian employee’s medical record and the military health record.
- c. Perform health risk assessments of asbestos-containing building materials to determine the need for corrective action.

5–16. Injury prevention and control

Injuries and musculoskeletal illnesses are major causes of diminished readiness in the Army. A comprehensive Army injury prevention campaign can be waged against this preventable detriment to readiness and costs through improved fixed installation and deployment injury surveillance, population-based injury prevention analysis, identification of injury prevention “best practices” and tools, and education products.

a. Functions.

- (1) The leadership and staffs of the Army Safety Center and the USACHPPM coordinate in supporting injury reduction planning and initiatives for the Army. The two organizations support each other with technical consultants in addressing workplace safety, risk communication, and investigation of accidents or incidents that cause injuries or other adverse health effects.
- (2) Commanders, supervisors, and other leaders, assisted and advised by medical staff, are the first and critical line of defense in reducing impact from injuries through education and training of personnel, early recognition of symptoms of injury, and timely application of preventive measures.
- (3) Commanders reduce the risk of injury and—
 - (a) Publish a unit-level annual directive on the prevention of injuries.
 - (b) Provide unit commanders an annual orientation class on the control of injuries using safety and medical personnel.
 - (c) Ensure all newly assigned personnel are aware of the warning signs for injuries and ways to prevent injuries.

b. Elements.

- (1) Successful installation injury prevention and control efforts include local policies, attentive case management, fraud investigation, light-duty assignments, position restructuring, and regular meetings of those involved in the local injury prevention and control program.
- (2) Injury prevention and control efforts include—
 - (a) Cooperation at the local level between occupational health, safety, personnel, management and local Office of Workers’ Compensation Program (OWCP) offices.
 - (b) Prompt provision of medical care for employees and soldiers afflicted with occupational injuries and illnesses on a priority basis per AR 40–400. Initial and follow-up care are provided for civilians as resources permit.
 - (c) Educational efforts to teach best practices in injury reduction, case management and related topics.
 - (d) Consultation with occupational health specialists for installations with particular problem areas.
 - (e) Use of medical surveillance and epidemiology tools to obtain relevant injury data, perform trend analysis, target specific interventions, and evaluate effectiveness of those interventions.

5–17. Occupational illness and injury prevention and mitigation

a. Federal Employees Compensation Act Program.

- (1) The Federal Employees Compensation Act (FECA) provides monetary compensation, medical care and assistance, vocational rehabilitation, and reemployment rights to Federal employees who sustain disabling injuries as a result of their Federal employment. The Department of Labor (DOL) OWCP administers FECA claims.
- (2) The FECA program is financed by the Employees’ Compensation Fund, which consists of funds appropriated by Congress directly, or indirectly, through a charge back to the various agencies. Each year, the Secretary of Labor furnishes a statement to each DOD component regarding payments made from the Fund.

b. Functions.

- (1) The installation commander ensures that—

- (a) Maximal effort is made to keep injured employees on the job, and that limited-duty positions are made available (DOD 1400.25–M, subchapter (SC) 810.3.4.4).
- (b) Position restructuring is considered for employees who have been permanently partially disabled because of a job-related injury or illness (DOD 1400.25–M, SC 810.3.4.5).
- (c) An installation FECA work group is established, if installation FECA claims exceed \$1 million (DOD 1400.25–M, SC 810.3.4.6).
- (2) Those involved in the installation-level effort to prevent and mitigate injuries meet regularly as a group to review and analyze injury trends, causes, light-duty assignments, position restructuring, case management activities and outcomes, FECA costs, trends, and plans; and to develop cost containment initiatives (DOD 1400.25–M, SC 810.3.4.6).
- (3) Occupational health clinics work with local commanders to reduce FECA costs by—
 - (a) Assisting organization and installation FECA coordinators with the medical aspects of case management, including *controversion* when appropriate.
 - (b) Coordinating with the installation safety office to identify and correct occupational safety and health problems (including ergonomic ones) that may cause further injuries or illnesses.
 - (c) Reviewing OWCP medical reports for appropriateness.
- c. *Procedures to reduce civilian injury rates and FECA costs.*
 - (1) Effective management of FECA costs requires close coordination among supervisors, resource managers, personnel offices, installation safety, occupational health, FECA coordinators, and commanders. Most accidents and the claims that follow are preventable through strong hazard identification and abatement, safety education programs, enforcement of safety rules, and a progressive ergonomics program.
 - (2) Each installation should have a FECA work group tailored to the installation's needs (DOD 1400.25–M, SC 810.3.4.6).
 - (a) Department of the Defense policy requires a FECA work group on installations whose claims exceed \$1 million.
 - (b) The purpose of this work group is to review injury and claim trends, establish and track goals, and develop cost-containment initiatives to reduce FECA claims and costs to the command.
 - (c) Representatives from civilian personnel (usually the Installation Compensation Program Administrator (ICPA)), safety, occupational health, industrial hygiene, resource management and law enforcement (fraud investigation) should be included.
 - (d) Installation FECA work groups usually meet quarterly.
- d. *Documenting and reporting occupational injury or illness for military personnel.* AR 385–40, chapter 2, requires that occupational injury or illness (fatal or nonfatal) of Army military personnel be documented and reported. AR 385–40, paragraph 2–10, prescribes the use of an installation log of occupational injuries and illnesses to record such injuries or illnesses to military personnel. Definitions of reportable occupational illness and injury are found in AR 385–40, chapter 2 and the glossary.
- e. *The role of the occupational health clinic in injury cost reduction.* The occupational health clinics and local commanders work together to reduce costs by—
 - (1) Assisting supervisors in advising injured civilian employees that the installation MTF is available for examination and treatment of their injury or illness. Treatment at the installation MTF is not mandatory for the employee. Employees may choose to see a private physician. Supervisors ensure the safe transport of employees to the health care provider of choice.
 - (2) Offering emergency care to injured civilian employees who choose to see a private physician but cannot get an appointment on the day of the injury. Emergency care may be provided until the injured employee can see the private physician of choice.
 - (a) Selection of an on-site provider for emergency care does not constitute an employee's choice of physician.
 - (b) Any communication between occupational health clinic personnel and private physicians must be in writing with a copy furnished to the regional OWCP office. Occupational health personnel will not contact private providers directly or by telephone.
 - (3) Supporting an installation *light duty* program.
 - (a) An installation light duty program is designed to provide injured civilian employees with duties the employees can safely perform in order to reduce medical and compensation costs. Most injured workers can return to some form of useful work if the command makes it available.
 - (b) Coordination with the OHN and industrial hygienist to conduct a thorough job analysis to determine what accommodations are needed is an essential part of reducing FECA costs.
 - (4) Assisting the ICPA, when requested, with medical aspects of case management, including *controversion* when appropriate and meeting regularly with the ICPA when possible.
 - (a) Controversion of claims is the process by which an agency may object to paying continuation-of-pay for regulatory reasons.
 - (b) The supervisor is responsible for controverting a claim on the U.S. Department of Labor (DOL) Form CA–1

(Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation) and submitting the detailed supporting information to the OWCP.

(c) The occupational health physician can review OWCP medical reports to provide an opinion to the ICPA as to whether second opinion and referee medical findings are consistent with employment restrictions recommended by the treating physician.

(5) Coordinating with the installation safety office to identify and correct occupational safety and health problems (including ergonomic ones) that may cause further injuries or illnesses.

f. Illness absence monitoring. Medical support of illness absence monitoring for civilian employees includes—

(1) Screening, treatment (see para 5–17g, below) and referral of employees who become ill during duty hours to the health care provider chosen by the employee.

(2) Evaluation of employee health status on return to duty after any absence due to job-related illness or injury that could impair job performance according to U.S. Equal Employment Opportunity Commission (EEOC) guidelines. (See EEOC Enforcement Guidance.)

(3) Recommendations regarding work limitations.

g. Medical directives. Comprehensive medical directives for emergency care and treatment of occupational and nonoccupational illnesses and injuries by the nursing staff are prepared, signed, reviewed annually, and revised by the responsible physician to—

(1) Assure proper handling of emergencies in the absence of, or prior to the arrival of, a physician.

(2) Direct the care to be given for minor incidents not requiring the personal attention of a physician.

(3) Authorize other activities by the nursing staff.

h. First aid. In general, the placement of first aid kits in work areas is discouraged. Exceptions can be made where work areas are geographically located distant from an MTF or where extremely hazardous exposures may occur and require immediate treatment for exposure. Local medical personnel approve first aid kits placed in work areas, their contents, intended use, and maintenance procedures. The only personnel approved for rendering first aid treatment are those who have completed approved first aid training. All first aid treatment rendered is reported to occupational health personnel.

5–18. Work-related immunizations

a. Appropriate immunizations are provided personnel with increased risk of infection related to potential job hazards or when required by official foreign travel. Other immunizations may be offered to civilian personnel to reduce absence due to sickness. Refer to AR 40–562/AFJI 48–110/BUMEDINST 6230.15/CG COMDTINST M6230.4E and CDC guidelines in the MMWR. The MMWR is available at <http://www.cdc.gov/mmwr>.

b. DA Pam 385–69 contains guidance concerning immunizations for workers in biodefense programs.

c. Civilians traveling under military sponsorship are provided appropriate immunizations and chemoprophylactic medications.

5–19. Record keeping and reporting

a. General instructions. While Civilian Personnel (Civilian Personnel Advisory Center or Civilian Personnel Operations Center) maintains accountability for employee records, the occupational health clinic, the industrial hygienist, the RSO, and the installation safety officer support this function. Title 29 CFR 1960, sections 66–74, establish uniform requirements for the collection and compilation of Federal employees' occupational safety and health records. AR 40–66 outlines medical record keeping, confidentiality, and reporting requirements. AR 40–68 outlines quality assurance procedures for records maintenance.

b. Special instructions for ionizing radiation exposures. AR 11–9 establishes special record keeping and reporting requirements for occupational exposures to ionizing radiation. Specific radiation exposure record keeping and reporting instructions for use by MEDCOM RSOs are found in MEDCOM Regulation 40–42. The following instructions pertain to the retention, disposition, information disclosure, transfer, and inspection of records pertaining to occupational exposures to ionizing radiation.

(1) *Record retention.*

(a) The automated dosimetry record (ADR) and bioassay results are permanent parts of the occupationally exposed individual's health record or civilian medical file. This includes all previous versions of dosimetry and exposure records. All previous copies of these records are retained in each occupationally exposed individual's health record or civilian medical file or with the dose records custodian. (AR 40–66 and AR 25–400–2 contain DA procedures.)

(b) If a DA or Defense Logistics Agency (DLA) civilian individual is not included in a Federal civilian occupational health service, the dose records should be kept in the individual's Official Personnel Folder.

(c) For a non-Federal worker (for example, contractor), the RSO ensures that records maintained at the IRDB are accurate.

(d) The IRDB permanently maintains all raw dosimeter readings obtained from personnel badges. The IRDB permanently retains, in the case of personnel threshold limit doses, the glow curve data for those threshold limit dose readings that require notification of OTSG. The IRDB should—

1. Retain this data on a media that can be processed by electronic data processing equipment.
2. Permanently maintain the databases containing the records of exposure of past and present employees of DA and DLA or Government-owned, contractor-operated employees in their entirety on a media that can be processed by electronic data processing equipment.

3. Microfilm paper records generated by the IRDB in providing dosimetry services; then dispose of the paper records according to AR 25-400-2.

(2) *Record disposition.*

- (a) AR 40-66 and Civil Service regulations govern the disposition of “stray” exposure records for DA military and civilian personnel.

- (b) Civilian personnel directives govern the disposition of these records for retired or separated civilian individuals.

- (c) Dose records for retired or separated DA or DLA military personnel are placed in the individual’s health records.

(3) *Disclosing information on records.*

- (a) The RSO coordinates with the IRDB or custodian to provide each individual who required monitoring a written, annual report of the occupational dose, as required by 10 CFR 19 or 29 CFR 1910. Include the following in this report—

1. The name of the installation or activity at which the individual was provided personnel dosimetry.

2. The name of the individual and individual’s social security number.

3. The individual’s exposure information.

4. The following statement: “This report is furnished to you under the provisions of the Nuclear Regulatory Commission regulation 10 CFR 19 or Department of Labor regulation (29 CFR 1910). You should preserve this report for further reference.”

- (b) For instructions regarding reports upon employment termination, refer to DA Pam 40-18/DLAI 1000.30, paragraph 4-6.

(4) *Record transfer.*

- (a) The RSO and the dose records custodian transfer records according to AR 25-400-2. Upon notification of an occupationally exposed individual transfer, the RSO and the dose records custodian—

1. Place the annual and current ADRs (and any previous versions of ADRs) and any bioassay results in the military health record or civilian medical file.

2. Prepare a copy of the above documents for the gaining installation or organization.

- (b) The gaining organization ensures that the records are complete by reviewing them upon receipt. If the ADR and bioassay results are missing, the gaining organization’s dose record custodian will request in writing that the losing organization’s RSO, indicated on the chargeout record, forward these records.

- (c) DD Form 877 (Request for Medical/Dental Records or Information) may be used to request these records from the MEDCEN, MEDDAC, or U.S. Army Dental Activity (DENTAC). See AR 40-66 for further information about the request and release of medical and dental records and information.

- (5) *Record inspection.* The installation or activity commander has the authority to authorize inspecting officials to review dose records and bioassay results. Such inspecting officials must have a valid need to review such records. If these records are maintained in the military health records or civilian medical files, the document custodian provides access to these dose records.

5-20. Worksite evaluations

- a. Worksite visits/evaluations are conducted annually by occupational health, industrial hygiene, and safety personnel. Additional worksite evaluations are conducted as operations change. Each visit is documented, and the worksite supervisor is provided a written report. At a minimum, these evaluations should include hazardous material identification, type of engineering controls needed if applicable, type of personal protective equipment required, and posting of appropriate signs needed (that is, noise-hazardous area, eye protection required). Appropriate entries should be made in the Health Hazard Information Module (HHIM) until DOEHRS-Industrial Hygiene (IH) is fielded. Appropriate entries are then made in DOEHRS-IH.

- b. AR 385-10, DA Pam 40-503, and DODI 6055.1 contain additional guidance.

5-21. Other Federal programs

- a. DA implements occupational safety and health standards by any of the following methods when there is no DA-published regulation or other guidance:

- (1) Issuance of an OSHA standard.

- (2) Publication of an OTSG policy letter providing guidance that incorporates the OSHA standard.

- b. Additional guidance may be found in AR 385-10, chapter 3, and at the CDC Web site at <http://www.cdc.gov/niosh/>.

5-22. Evaluation of occupational health programs and services

a. Self-audits and external assessments of Army occupational health programs and services are essential tools in evaluating the outcomes and effectiveness of programs and services from both local and Army-wide perspectives. Such evaluations also assist installation commanders and local occupational health program managers in improving the quality of their occupational health programs and services.

b. The local occupational health program manager establishes local program goals and metrics and conducts an annual self-assessment of installation-level programs and services.

(1) The installation industrial hygiene program manager conducts an annual self-assessment of installation-level industrial hygiene programs and services.

(a) The assessment is completed and documented using the Industrial Hygiene Status Report self-assessment questionnaire, located on the DOEHRS secure Web site. Access to the Industrial Hygiene Status Report is restricted to account holders. Instructions for obtaining an account are provided through a link on the DOEHRS secure Web site homepage at <https://doehrswww.apgea.army.mil/dohrsdr>.

(b) The USACHPPM Industrial Hygiene Program sends an electronic notification letter annually to installation industrial hygiene program managers with instructions for completing the assessment on the DOEHRS secure Web site. The USACHPPM Industrial Hygiene Program analyzes the annual industrial hygiene assessments across the Army and distributes the analyses through the industrial hygienists at the regional medical commands (RMCs).

(2) The installation occupational health program manager completes and documents an annual self-assessment of installation-level occupational health programs and services.

(a) The assessment is completed using the self-assessment checklist in the Occupational Health Program Status Report Web-based application available at the following Web site: <https://echppm.apgea.army.mil/apps/ohsac>. Each Army occupational health clinic completes this self-assessment annually by 31 October, providing the results through the local MTF commander to the RMC preventive medicine service. Results are also sent electronically to USACHPPM. Results should be shared with the installation commander. The local MTF commander determines improvements to be made based on the self-assessment.

(b) The local occupational health program manager can access the Occupational Health Self-Assessment Checklist at the secure URL after obtaining an account in the USACHPPM extranet at <http://chppm-www.apgea.army.mil/extranet>. Extranet user guidance is available from the USACHPPM Deputy Chief of Staff for Information Management, Infrastructure Management Division.

(3) USACHPPM consolidates and analyzes these annual assessments to assist the Functional Proponent for Preventive Medicine in identifying Army-wide industrial hygiene and occupational health program strengths and weaknesses and planning systemic program improvements and problem resolution.

c. The local occupational health program can request consultative assistance as well as external audits and evaluations of the overall installation program or of individual services. USACHPPM can provide such external audits and evaluations when requested by the local occupational health program manager, the local medical commander, or the installation commander.

d. Each occupational health service completes a formal external evaluation using RMC, MEDCOM, or USACHPPM assets every three years at a minimum.

Section II

Other Occupational Health-Related Programs and Services

5-23. Introduction

a. Army preventive medicine includes other occupationally related programs and services that are not part of the formal DOD Safety and Occupational Health Program or the formal Army Occupational Health Program. These programs and services include—

(1) Army aviation medicine.

(2) HHA of Army equipment and materiel.

(3) Medical facility and systems safety, health, and fire prevention.

(4) Nonoccupational injury and illness.

b. Army aviation medicine is considered to be a preventive medicine discipline focusing on improving and sustaining aviator health and performance.

c. The Army HHA Program provides system and materiel health risk assessments to prevent illness or injury once the system or materiel is fielded for Army use. This program is unique among the Services.

d. Preventive medicine services supporting medical facility and systems safety, health, and fire prevention are focused on MTF compliance with the JCAHO health and safety criteria.

e. Definitive diagnosis and treatment of nonoccupational illness and injury cases are not within the scope of the Army Occupational Health Program. There are exceptions in cases of emergencies, minor disorders, minor treatments, and cases of employees with substance abuse problems. Paragraph 5-27 provides additional information.

f. At the discretion of the MTF commander, a variety of occupational health-related, clinical and nonclinical health promotion and wellness services may be provided to civilian employees at Government cost. These services may include cholesterol testing; hypertension screening; and tobacco use cessation services such as clinical visits, group counseling, information, and medications.

5-24. Army aviation medicine

a. Introduction.

(1) Army aviation medicine applies to aircrew performing aviation or air traffic control duties in DA aircraft, aircraft leased by the DA, or in Army air traffic control facilities. This includes Active Army and Reserve personnel, DA civilians, contract civilians under employment by the DA, or firms under contract to DA.

(2) Aeromedical standards, policies, and procedures are provided in AR 40-501 and AR 40-3.

b. Functions.

(1) TSG is responsible for the Army Aviation Medicine Program and is the proponent for all aeromedical policies and standards. The aviation medicine consultant to TSG assists TSG in formulating policies and standards and provides technical supervision of all aspects of the Army Aviation Medicine Program.

(2) Medical commanders, command surgeons, and aviation unit commanders implement Army aviation medicine at the local level by providing trained personnel, equipment, and facilities for the proper conduct of the program.

(3) All aviation personnel are given ambulatory care or flight evaluations by or under the direct supervision of a flight surgeon if available. If such care is not available, other health care providers ensure that the requirements in AR 40-3 and the responsibilities in AR 40-501 are met.

5-25. Health hazard assessment of Army equipment and materiel

a. Introduction. The Army implements a formal HHA Program in support of the Army Materiel Acquisition Decision Process according to AR 40-10.

b. Functions. OTSG has the staffing, planning, programming, budgeting, and execution responsibilities for this program as prescribed in AR 40-10.

5-26. Medical facility and systems safety, health, and fire prevention

a. Introduction.

(1) AMEDD unit safety program management functions and responsibilities comply with AR 385-10.

(2) AMEDD unit accident reporting and record keeping procedures and responsibilities comply with AR 385-40.

(3) Electrical safety in fixed medical facilities complies with the criteria in JCAHO Comprehensive Accreditation Manual for Hospitals (CAMH) and Comprehensive Accreditation Manual for Ambulatory Care (CAMAC); NFPA Standards 70, 99, and 110; and 29 CFR 1910.

(4) Fire safety in fixed medical facilities complies with AR 420-90; CAMH; CAMAC; NFPA Standards 10, 13, 30, 72, 80, 82, 90A, 96, 101® (2000 edition) and 5000; MIL-HDBK-1008C, MIL-HDBK-1191, and 29 CFR 1910.

(5) General safety in fixed medical facilities complies with CAMH or CAMAC, 29 CFR 1910, and the AR-385 series.

(6) Environmental health in fixed medical facilities complies with the criteria in TB MED 2, TB MED 530, CAMH and CAMAC.

(7) Industrial hygiene in fixed medical facilities complies with the criteria in DA Pams 40-501 and 40-503; TB MEDs 266, 502/DLAM 1000.2, and 510; U.S. Department of Health and Human Services (DHHS) (NIOSH) Publications 75-137, 77-140, 77-200; and 29 CFR 1910.

(8) Radiation health in fixed medical facilities complies with the criteria in AR 11-9; TB MEDs 521, 523, 524, and 525; and 10 CFR 19, 20, 21, 30, and 35. Additional MEDCOM guidance is published in MEDCOM Regulation 40-42.

(9) Every attempt should be made to comply with the intent of codes and standards for fixed or mobile medical facilities.

(10) NFPA 101® is a registered trademark of the National Fire Protection Association, Quincy, Massachusetts.

b. Functions.

(1) The medical facility commander—

(a) Establishes and oversees a medical facility safety and occupational health advisory council (SOHAC).

(b) Approves and signs all written minutes of the SOHAC meetings.

(c) Verifies that the hospital has written safety policies that include procedures for the safety of patients and accident reporting procedures.

(d) Confirms that the hospital provides all employees with a safety orientation program.

(e) Formally authorizes the safety officer or safety manager to act upon hazardous conditions within the hospital.

(f) Communicates and enforces a written policy that bans smoking throughout the hospital and all its buildings. A licensed practitioner may, subject to the approval of the medical facility commander, authorize an exception to this policy for valid medical reasons.

(g) Confirms that the hospital has a written management plan for each of the seven disciplines required by the JCAHO (for example, safety, security, hazardous materials and waste, emergency preparedness, life safety, medical equipment, and utility systems) and that an evaluation of each discipline is submitted annually to the safety committee.

(2) The medical facility SOHAC—

(a) Consists of representatives from administration, preventive medicine service, medical staff, nursing staff, engineering and maintenance, housekeeping, and nutrition care.

(b) Meets at least annually and keeps written minutes of its meetings.

(c) Reports the findings of the committee and appropriate recommended corrective actions in its meeting minutes.

(d) Has all meeting minutes signed and approved by the hospital commander.

(e) Develops and provides a safety orientation program for all new employees.

(3) Preventive medicine service personnel coordinate with the installation/hospital safety office or manager and engineering and maintenance personnel to identify and eliminate hazards.

(4) Supervisors—

(a) Provide or coordinate and document safety education for all their employees.

(b) Instruct all employees regarding the hazards inherent in their jobs and the safety rules pertaining to their specific duties.

(c) Coordinate education related to job hazards with occupational health personnel, the safety manager or officer, and the infection control nurse when appropriate.

5-27. Nonoccupational illness and injury

Definitive diagnosis and treatment of nonoccupational illness and injury cases are not within the scope of the Army Occupational Health Program except for—

a. *Emergencies.* Employees are given the medical attention required to prevent loss of life or limb or relieve suffering until placed under the care of their personal physicians.

b. *Minor disorders.* First aid or palliative treatment may be given if the condition is one for which the employee would not reasonably be expected to seek attention from a personal physician, or to reduce absenteeism by enabling the employee to complete the current work shift before consulting a personal physician. Requests for repetitive treatment of nonoccupational disorders are to be discouraged.

c. *Minor treatments or services.* Examples of these include, but are not limited to, administering allergy treatments, monitoring blood pressure, and providing physiotherapy. These treatments or services may be furnished at the discretion of the responsible physician if resources are available. The employee's personal physician submits a request for such service in writing before such services are provided. The employee provides any required medications.

d. *Cases of employees with substance abuse problems.* Such employees are to be encouraged to seek assistance and counsel from local substance abuse program staffs. Occupational health personnel can provide initial counseling and referral of employees to treatment and counseling resources. AR 600-85 and DA Pam 600-85 provide additional guidance.

Section III

Workplace Violence Prevention

5-28. Introduction

a. Workplace violence is one type of violence that can occur in military communities. Some installations have active workplace violence prevention initiatives as part of their risk reduction strategies. Law enforcement, safety, and the chaplain's office are the principal participants in such installation programs. The following discussion presents guidance to help preventive medicine personnel support installation commanders in establishing and conducting effective workplace violence prevention activities.

b. Where installation workplace violence prevention programs exist, the five-step Army risk management process forms the context within which installation commanders work to identify and deal with individual high-risk behaviors. Those five steps, applied to behavioral risk reduction, are: identify risk behaviors; assess those behaviors; make a risk management decision (see AR 385-10, para 2-3d); implement controls; and supervise and evaluate outcomes.

c. Medical commanders and staff should support and participate in installation workplace violence prevention processes as well as provide such processes for the health care work environment.

d. Effective behavioral risk management in any work environment depends upon the following elements:

(1) Commander and supervisor commitment.

(2) An interagency coordinated approach.

(3) Soldier and civilian employee involvement.

(4) Worksite analysis.

(5) Hazard prevention and control.

(6) Safety and health training.

- (7) Incident reporting.
- (8) Emergency response.
- (9) Follow-up and investigation.
- (10) Record keeping.

e. Guidance for planning and implementing workplace violence prevention processes can be found in—

- (1) Army Civilian Personnel Office guidance (<http://cpol.army.mil/library/permis/>).
- (2) The U.S. Office of Personnel Management guide for agency planners for dealing with workplace violence (<http://www.opm.gov/ehs/workplac>).
- (3) DOL-OSHA guidelines for preventing workplace violence for health care and social service workers (<http://www.osha.gov/SLTC/workplaceviolence/>).

5-29. Functions

a. Installation commanders, who choose to do so, establish local workplace violence prevention processes that reflect the unique demands of their military communities.

(1) A command-directed installation-wide workplace violence prevention strategy emphasizes command responsibilities, use of existing resources, and the application of the Army risk management process.

(2) Behavior leading to workplace violence may be categorized and addressed differently depending upon whether the employee is active-duty or civilian.

(3) The Army has some programs and agencies already in place to reduce the potential for workplace violence, such as the Army Substance Abuse Program, Army Community Services, installation and unit chaplains, and behavioral health services in MTFs.

b. The installation commander choosing to implement a local workplace violence prevention program should consider establishing an installation-level workplace violence prevention and response team to assist in identifying and assessing workplace violence indicators and implementing and evaluating prevention activities. This team can also provide effective management and information flow between commanders and their military communities.

c. The medical commander's support of an installation workplace violence prevention program can include the following:

(1) Representation on an installation workplace violence prevention team by occupational health nursing, behavioral health services, and social work services. Preventive medicine, occupational medicine, community health nursing, and other clinical services support may also be requested.

(2) Assistance with staff and victim education, staff mediation, consultation, referral, team building, and post-incident debriefings.

(3) A workplace violence prevention program and response plan for the health care work environment, especially for high-risk areas such as behavioral health clinics and wards.

d. Preventive medicine staff can assist medical commanders in establishing and implementing workplace violence prevention programs and response plans within the health care work environment.

(1) Violence within the health care work environment can come from co-workers, patients and other customers, relatives of patients, and strangers. The health care work environment includes outreach activities in which health care providers, such as social workers, CHNs, environmental science officers, and preventive medicine technicians, can be at significant risk of violence while performing their duties outside of the MTF.

(2) Preventive medicine personnel should work closely with MTF safety personnel and with installation safety and law enforcement staff in workplace violence hazard anticipation, identification, control, and the education of managers and employees.

(3) Guidance for preventing workplace violence for health care workers can be obtained from the OSHA Web site referenced in 5-28e(3), above. This guidance includes—

- (a) Case histories of health care workplace violence.
- (b) Categories of violence that present the greatest threats in health care workplaces.
- (c) Factors that may increase a health care worker's risk for workplace violence.
- (d) Core elements of an effective violence prevention program.
- (e) Worksite analysis and risk assessment procedures.
- (f) Development and deployment of installation prevention programs and response plans.
- (g) Training and education instructions.
- (h) Record keeping and program evaluation methods.

Chapter 6

Health Surveillance and Epidemiology

Section I

Deployment Occupational and Environmental Health Surveillance

6-1. Introduction

a. Force Health Protection provides a conceptual framework for optimizing health readiness and protecting Service personnel from health threats associated with military service. FHP is important in all phases of military service, but is especially critical during deployments, when threats to health may be different, more numerous, or more severe than those faced in non-deployed settings.

b. Occupational and environmental health and endemic disease (OEH/ED) threats can seriously impact a commander's mission and affect short- and long-term military operations. Traditionally, they have been both separately assessed and independently managed. As a result, they can be misunderstood as unrelated aspects of the battlefield – both in doctrine and policy. This document considers these hazards to be integrally related and attempts to manage them consistently. However, in order to be consistent with current policy, OEH and ED will be referred to throughout using combined OEH/ED terminology.

c. Medical OEH/ED surveillance is a critical component of FHP. It includes identifying the population at risk, anticipating and recognizing hazardous exposures of all types, employing specific countermeasures to minimize health impact, communicating risks, and monitoring the health of individual Army personnel and of the force as a whole. Each of these functional areas of OEH/ED surveillance includes tasks to accomplish before, during, and after a deployment.

d. Deployments vary markedly in duration, number of participants, geographic region, projected OEH/ED threats, and urgency of deployment. Consequently, preventive medicine personnel need to determine specific surveillance practices by assessing the unique characteristics of each deployment.

e. This section provides Army implementing instructions for DOD Directive (DODD) 6490.2, DODI 6490.3 and DODI 6055.1, to include DNBI, reportable medical events, and OEH/ED surveillance.

f. Deployment Occupational and Environmental Health Surveillance outcomes support the identification, use, and effectiveness assessment of appropriate personal protection and other countermeasures such as policy, doctrine, risk management strategies, training, equipment, and force structure.

g. Occupational and environmental health and endemic disease threats are to be addressed in operational and contingency planning. Health threat information used in planning should be updated according to intelligence production requirements.

h. Components of Army health surveillance capabilities include, but are not limited to, deployment OEH/ED hazard and exposure surveillance; DOEHRs; AMSA; the Defense Medical Surveillance System (DMSS), and epidemiology resources and databases.

i. Many sophisticated surveillance activities require access to data maintained in various formats and by many different agencies. Behavioral health, for example, requires information from medical, personnel, law enforcement, operations and training databases, to name a few, in order to monitor the intrapersonal, interpersonal, organizational, political, and environmental aspects that affect or are affected by behaviors in key ways of concern. Access to those databases is vital to the construction and operation of such a monitoring system.

j. Occupational and environmental health and endemic disease hazards can seriously affect the mission and erode public confidence in the military's ability to protect U.S. personnel. These hazards include exposures to harmful levels of environmental contaminants such as TIMs, chemical and biological warfare agents, and radiological and nuclear contaminants. "Harmful levels" include high-level exposures that result in immediate harmful levels and significant impacts to mission capabilities. Harmful levels may also include low-level exposures that could result in delayed or long-term health effects that would not ordinarily have a significant impact on the mission.

k. Disease and non-battle injury rates are an important tool at the unit level. Abnormal rates indicate a problem may exist which could negatively affect mission readiness and a need for preventive medicine countermeasure implementation. Historically, DNBI cost the field commander 99 percent of all personnel lost from deployed forces in the last 10 to 12 years and were largely preventable. The most valuable DNBI surveillance data are near real-time. Timely DNBI monitoring will permit early casualty identification with potential adverse health trends, assessment of countermeasure effectiveness, and determination for enhanced countermeasures.

l. Early deployment of relevant OEH and epidemiology augmentation teams can assist the Theater or Joint Task Force surgeon in identifying and assessing threats and recommending countermeasures.

m. The design, integration, and use of Army medical and personnel information systems must support OEH/ED surveillance in order to assess, maintain, and protect the health of Army personnel throughout their time in service. Such systems must be specifically configured to support assessing the effects of deployment on the health of Army personnel.

n. The content of this pamphlet and the referenced publications provide additional detailed technical and program

management guidance. These documents address many areas of preventive medicine including occupational health, environmental health, occupational medicine, industrial hygiene, ergonomics, hearing and vision conservation, and health promotion. Some of the documents provide hazard-specific guidance, while others provide program- or management-related guidance. Use these documents for performing OEH surveillance functions and enhancing FHP.

6-2. Functions

- a. The MEDCOM—
 - (1) Resources, trains, and equips organizations and personnel for implementing OEH/ED surveillance.
 - (2) Ensures a seamless transition from garrison to deployment OEH/ED surveillance.
 - b. The USACHPPM—
 - (1) Provides augmentation response teams for preventive medicine. This augmentation concept identifies USACHPPM assets to support deployed forces on the ground in the theater of operations (FM 8-42). The main focus for such augmentation support is the OCONUS AML. The USACHPPM augmentation assets are resourced, trained, and equipped to perform the following OEH/ED surveillance tasks:
 - (a) Provide technical experts, special equipment and/or supplies for short durations to support sustained OEH/ED surveillance.
 - (b) Initiate and conduct longitudinal monitoring programs for bases of operations and installations as part of long or open-ended missions.
 - (c) Conduct new equipment training and tactics employed by field preventive medicine assets.
 - (d) Conduct special surveys that support the OEH/ED surveillance assets in the theater of operations.
 - (e) Provide additional capabilities as necessary to identify and assess the health threat to exposed forces caused by OEH/ED hazards.
 - (2) Provides fixed installation OEH/ED surveillance support activities to include—
 - (a) Pre-deployment hazard characterization support.
 - (b) Provision of special sampling and monitoring equipment and training to identify hazards and document exposures beyond deployed units' capabilities.
 - (c) Technical analysis in support of deployed OEH/ED surveillance operations.
 - (d) Expert consultation to deployed assets in support of OEH/ED surveillance.
 - (e) Exposure guidelines for use in Stability and Support Operations and wartime versus peacetime standards.
 - (f) Exposure guidelines for low-level chemical agent concentrations and nuclear/radiological materials that can be used in both civilian and military arenas.
 - (g) Special surveys or projects to support OEH/ED surveillance.
 - (3) Provides technical leadership, advice, and services for the surveillance of OEH hazards and exposures.
 - (4) Serves as a consultant to the operational forces for—
 - (a) Developing health threat assessments.
 - (b) Identifying surveillance activities and health countermeasures for pre-, during-, and post-deployment phases.
 - (c) Planning and implementing strategies for communicating health risks.
 - (d) Analyzing OEH/ED exposure surveillance data to identify significant problems affecting health and readiness.
 - (5) Provides AMEDD representation in Army, multiservice, Joint, and DOD development and use of information management capabilities and tools for OEH/ED exposure surveillance.
 - (6) Provides surveillance data analysis, reporting, and archiving capabilities. Analysis capabilities should include trend analysis and epidemiological studies, such as post-deployment retrospective and longitudinal studies, to link hazard and exposure surveillance data with medical surveillance data.
 - (7) Provides laboratory analysis, training, and equipment support.
 - (8) Provides a repository for all DOD OEH/ED surveillance data.
 - (2) Provides fixed installation OEH/ED surveillance support activities to include—
 - (a) Pre-deployment hazard characterization support.
 - (b) Provision of special sampling and monitoring equipment and training to identify hazards and document exposures beyond deployed units' capabilities.
 - (c) Technical analysis in support of deployed OEH/ED surveillance operations.
 - (d) Expert consultation to deployed assets in support of OEH/ED surveillance.
 - (e) Exposure guidelines for use in Stability and Support Operations and wartime versus peacetime standards.
 - (f) Exposure guidelines for low-level chemical agent concentrations and nuclear/radiological materials that can be used in both civilian and military arenas.
 - (g) Special surveys or projects to support OEH/ED surveillance.
 - (3) Provides technical leadership, advice, and services for the surveillance of OEH hazards and exposures.
 - (4) Serves as a consultant to the operational forces for—
 - (a) Developing health threat assessments.
 - (b) Identifying surveillance activities and health countermeasures for pre-, during-, and post-deployment phases.
 - (c) Planning and implementing strategies for communicating health risks.
 - (d) Analyzing OEH/ED exposure surveillance data to identify significant problems affecting health and readiness.
 - (5) Provides AMEDD representation in Army, multiservice, Joint, and DOD development and use of information management capabilities and tools for OEH/ED exposure surveillance.
 - (6) Provides surveillance data analysis, reporting, and archiving capabilities. Analysis capabilities should include trend analysis and epidemiological studies, such as post-deployment retrospective and longitudinal studies, to link hazard and exposure surveillance data with medical surveillance data.
 - (7) Provides laboratory analysis, training, and equipment support.
 - (8) Provides a repository for all DOD OEH/ED surveillance data.
- c. Commanders of Army MACOMs, including Reserve Component—
 - (1) Incorporate the procedures contained in this pamphlet into deliberate and crisis action planning processes.
 - (2) Incorporate OEH/ED surveillance into training and military exercises.
 - (3) Implement and ensure compliance with pre-, during-, and post-deployment components of OEH/ED surveillance.
 - (4) Provide personnel data to support OEH/ED surveillance.
- d. Army component commanders of Joint commands—
 - (1) Incorporate OEH/ED surveillance into operation and exercise plans.
 - (2) Disseminate specific policy and guidance for OEH/ED surveillance and protection.
 - (3) Implement the Joint commanders' guidance for OEH/ED surveillance and protection.
- e. The preventive medicine staff section at command level (Division and Corps)—
 - (1) Characterize the medical threat in the area of operations.
 - (2) Prepare the preventive medicine estimate.
 - (3) Communicate the estimate to the command surgeon and develop the preventive medicine support plan.

- (4) Identify OEH/ED surveillance requirements for subordinate units.
- (5) Develop and oversee the execution of OEH/ED sample movement plans.
- (6) Specify OEH/ED missions for preventive medicine assets at Division and Corps levels.
- (7) Identify OEH/ED surveillance capability shortfalls and coordinate with external preventive medicine support assets for assistance and training.
- (8) Conduct OEH/ED risk assessment for the area of operation.
- (9) Coordinate OEH/ED surveillance support for the area of operation.
- (10) Advise the command surgeon on OEH/ED surveillance issues.
- (11) Serve as the command point of contact for OEH/ED surveillance.
- f. Preventive medicine detachments—
 - (1) Conduct OEH/ED surveillance activities in the area of responsibility to include coordinating, compiling, analyzing, and reporting OEH/ED surveillance data to assist in evaluating conditions affecting the health of the supported force.
 - (2) Collect OEH/ED samples and specimens, and perform selected analyses or evaluations to assist in the medical threat risk assessment.
 - (3) Conduct vector and reservoir control in the assigned area of responsibility to include application of pesticides.
 - (4) Coordinate NBC-related biological specimen collection and evaluation with treatment, NBC, laboratory and intelligence units and organizations.
 - (5) Monitor DNBI surveillance data, hospital admission, and reports of autopsy for signs of disease outbreaks and possible exposures to TIMs and NBC agents.
 - (6) Monitor pest management, field sanitation, food sanitation, water treatment, transportation, storage, waste disposal, and DNBI control practices of units in the area of responsibility. Provide advice and training as necessary.
 - (7) Conduct epidemiological consultation (EPICON) and disease outbreak investigation activities for the Corps Support Area.
 - (8) Collect population information for troop concentrations and base camps that will help identify possible exposure groups (for example, locations, living conditions, water source, food source, mission and activities performed by the unit).
 - (9) Conduct specialized OEH/ED surveillance missions in the area of responsibility.
- g. The division preventive medicine section personnel (in addition to preventive medicine staff functions)—
 - (1) Monitor pest management, field sanitation, food sanitation, water treatment, transportation, storage, waste disposal, and DNBI control practices in the divisional area. Provide advice and training as necessary.
 - (2) Investigate and evaluate pest management, sanitation, water supply, and waste disposal practices. Recommend corrective measures.
 - (3) Conduct EPICON and disease outbreak investigation activities in the division area.
 - (4) Coordinate and/or conduct OEH/ED surveillance activities in the division area of operation.
 - (5) Collect occupational and environmental samples and specimens, and perform selected analyses or evaluations to assist in the OEH/ED threat risk assessment.
 - (6) Coordinate NBC-related biological specimen collection and evaluation with treatment, NBC laboratory, and intelligence units and organizations (FM 34–54).
 - (7) Monitor DNBI surveillance data, hospital admission, and reports or autopsy for signs of disease outbreaks and possible exposures to TIMs and NBC agents.
- h. Area support medical battalion preventive medicine section personnel—
 - (1) Monitor pest management, field sanitation, food sanitation, water treatment, transportation, storage, waste disposal, and DNBI control practices in the Corps Support Area. Provide advice and training as necessary.
 - (2) Investigate and evaluate pest management, sanitation, water supply, and waste disposal practices in the Corps Support Area. Recommend corrective measures.
 - (3) Conduct EPICON and disease outbreak investigation activities for the Corps Support Area.
 - (4) Coordinate and/or conduct OEH/ED surveillance activities in the division area of operation.
 - (5) Collect occupational and environmental samples and specimens, and perform selected analyses or evaluations to assist in the OEH/ED threat risk assessment.
 - (6) Coordinate NBC-related biological specimen collection and evaluation with treatment, NBC laboratory, and intelligence units and organizations (FM 34–54).
 - (7) Monitor DNBI surveillance data, hospital admission, and reports or autopsy for signs of disease outbreaks and possible exposures to TIMS and NBC agents.
- i. The AML—
 - (1) Provides confirmatory laboratory analysis to field preventive medicine assets. OEH/ED support includes—
 - (a) Epidemiological investigations.
 - (b) Entomological assessments.

- (c) Radiation laboratory analysis and health physics consultation.
- (d) Occupational and environmental laboratory analysis and engineering and environmental science consultation.
- (e) Industrial hygiene laboratory analysis and expert consultation.
- (f) Food, water, and wastewater sample analysis.
- (2) Serves as the central receiving facility for all occupational and environmental sampling for the theater.
- (3) Conducts field analysis for potentially acute hazards and coordinates further sample evaluation with preventive medicine level V or other preventive medicine level IV supporting assets.
- (4) Receives, compiles, and analyzes theater-wide medical surveillance data and provides DNBI trend information and recommendations to command surgeons and preventive medicine assets throughout the areas of operation.
- (5) Provides confirmatory laboratory analysis for biological warfare and chemical warfare agents.
- j. Army personnel comply with all required pre-, during-, and post-OEH/ED surveillance tasks.

6-3. Deployment guidance

a. *Pre-deployment actions.* The supported unified command, through deployment orders and separate instructions, requires the supporting Army elements to accomplish the following at the home station or processing station of the deploying Army personnel. Incorporate the following activities into deliberate and crisis action planning:

- (1) *Theater-wide health preparedness.*
 - (a) Reviewing and communicating infectious disease and environmental health risks for the area of operations. At a minimum, this includes reviews of the infectious disease risk assessment, environmental health risk assessment, and disease occurrence worldwide regional updates produced by AFMIC. These resources are available through the intelligence component of the MEDCOM/Army/Joint Staff/unified combatant commanders staff (for example, J-2, G-2, and S-2). AFMIC maintains the Medical Environmental Disease Intelligence and Countermeasures (MEDIC) CD-ROM and up-to-date information on their Web site at <http://mic.afmic.detrick.army.mil>. For nonmilitary organizations unable to access the restricted AFMIC information, less concise but useful information can be obtained from the Central Intelligence Agency Fact Book (<http://www.odci.gov/cia/publications/factbook/>) and the World Health Organization (<http://www.who.dk/countryinformation/>).
 - (b) Establishing requirements, and allocating and assigning appropriate medical resources to conduct OEH/ED assessment and surveillance, particularly in the earliest operational phases.
 - (c) Training commanders as well as all deployable personnel in Army ORM methods.
 - (d) Based on the threat, conducting studies at potential deployment sites to establish pre-deployment OEH/ED baseline conditions. These studies should integrate information from industrial hazard assessments (IHAs) and be coordinated and integrated with conduct of environmental baseline surveys (EBSs). (See paragraph 10-3b of this pamphlet for additional information on IHAs, EBSs, and operational health risk assessment.)
 - (e) Incorporating risk management and surveillance recommendations into the Preventive Medicine Appendix, Annex Q (Medical) of the deliberate or crisis action plan; ensuring inclusion of these risks in the overall Operational Risk Summary evaluation; communicating this information to subordinate units for inclusion into their unit-level planning; and integrating OEH/ED and other medical threats into Annex B (Intelligence) as appropriate.
 - (f) Informing Army personnel of all known and perceived significant health threats, including endemic diseases; entomological hazards; NBC contaminants; TIMs (agricultural and industrial); deployment-related stress; and climatic/environmental extremes (for example, heat, cold, high altitude, windblown sand and dirt).
 - (g) Employing effective preventive medicine countermeasures for identified hazards. Countermeasures include individual and unit avoidance of hazardous locations, when consistent with operational goals. Countermeasures also include the use of appropriate personal protective measures and equipment.
 - (h) Conducting pre-deployment vulnerability assessments of preventive medicine concerns (validating AFMIC-identified medical threats). Vulnerabilities to a threat may include units, personnel, buildings, local food and water sources, local medical capabilities, equipment, and materiel, and so forth. Pre-deployment vulnerability assessments will provide the necessary information to determine the initial FHP strategies and resources required to mitigate health risks to DOD personnel and assets. In addition, conduct threat and risk assessments and develop risk communication strategies for—

- 1. Infectious, communicable, or vector-borne disease threats to health.
- 2. Food and water contamination.
- 3. Natural physical threats to health (for example, heat, cold, sun, altitude).
- 4. Dangerous plants and animals.
- 5. Chemical, biological, and radiological threats to health (industrial, OEH hazards).
- 6. Weaponized chemical, biological, radiological, and nuclear materials.
- 7. Psychological factors likely to bear on troop readiness/effectiveness.
- 8. Other non-battle injuries.
- (i) Providing a pre-deployment medical threat briefing to all deploying personnel. The briefing should include, as a minimum, the following areas:

1. Immunizations.
2. Chemoprophylaxis.
3. Personal protective measures.
4. Safe food and water.
5. Sexually transmitted diseases.
6. Motor vehicle and general safety.
7. Environmental factors.
8. Hazardous plants and animals.
9. Personal health and fitness.
10. Combat and operational stress control.

(j) Issuing required medical supplies and personal protective equipment, such as hearing protection, safety glasses, two pairs of prescription eye glasses, prescription protective mask inserts, DEET insect repellent lotion, permethrin insect repellent clothing impregnate, chemoprophylactic medications and equipment prior to departure.

(k) Providing information on availability of U.S. military medical care and host nation medical care and patient movement. Individuals or groups traveling independent of a formal exercise or operation require specific prior planning for medical care.

(l) Informing individual deploying Army personnel of their responsibility for complying with preventive medicine guidance. All too often, deploying individuals fail to follow specifically recommended preventive measures. Commanders should deploy with a strategy to maximize compliance with preventive medicine recommendations.

(2) *Individual medical readiness.*

(a) *Immunizations.*

1. *DOD minimum requirements.* Immunizations must be current (as defined by most recent Advisory Committee on Immunization Practice vaccine-specific schedules) in tetanus-diphtheria; influenza; hepatitis A; measles, mumps, rubella; and polio.

2. *Army-specific requirements.* Refer to AR 40-562/AFJI 48-110/BUMEDINST 6230.15/CG COMDTINST M6230.4E.

(b) *Deployment-specific medical countermeasures.* Based upon the geographical location, the unified command should determine the need for—

1. Additional immunizations (for example, anthrax, meningococcus, Japanese B Encephalitis vaccine).
2. Chemoprophylactic medications.
3. Other individual personal protective measures (such as insect repellent, bed netting, and repellent-treated uniform).

(c) *Required occupational health personal protective equipment.* Examples include hearing protection, eye protection, NIOSH-approved respiratory protection (including spare filter cartridges), protective clothing, and personal exposure dosimeter.

(d) *Individual health assessment.*

1. Occupational examination requirements (for example, respirator, medical evaluations and fit testing).
2. Dental Class I/II categorization.
3. Significant health conditions (for example, P-4 profile, pregnancy).
4. Collection of additional baseline biological samples as warranted by the deployment health threat.
5. HIV testing within previous 6 months (serves dual purpose: HIV screening and pre-deployment serum sample).
6. Appropriate documentation of the most recent tuberculin skin test (TST) results in the deployment health record. Army-specific policies based upon analysis of Army-unique risk factors establish the currency (or periodicity) of the TST. Thus, Army policies may permit more than a 24-month period to elapse between TSTs. For previous purified protein derivative converters, handle according to Army policy.

7. Deoxyribonucleic acid (DNA) sample on file. To confirm the unit/individual status of DNA specimens on file, contact the DOD DNA Specimen Repository (voice 301-295-4379, fax 301-295-4380, or e-mail afrrsir@afip.osd.mil).

8. A 90-day supply of any required personal prescription medications.

9. Individually required medical equipment (such as prescription glasses, prescription protective mask inserts, hearing aids, and dental orthodontic equipment).

10. Health threat briefing.

11. Identification of other medical conditions.

12. DD Form 2795 (Pre-Deployment Health Assessment) questionnaire available at the AMSA Web site: http://amsa.army.mil/AMSA/amsa_home.htm.

(e) *Medical record.* The DOD standard form in the medical record for recording essential readiness indicators is DD Form 2766 (Adult Preventive and Chronic Care Flowsheet). The DD Form 2766 accompanies the deploying individual.

b. During-deployment actions. The supported unified command provides guidance to component commands for conducting the following activities:

(1) Ensuring subordinate medical activities conduct timely, standardized, comprehensive surveillance and risk assessments of health hazards.

(2) Complying with Army health surveillance requirements for reporting and archiving health surveillance data and reports (such as DNBI, reportable medical events, OEH surveillance data). This includes documenting all individual health treatment provided at all levels of care and any notable occupational and environmental exposures and linking individual exposure records to individual health records.

(3) Conducting OEH/ED risk assessment activities such as—

(a) Reviewing and updating OEH/ED risk assessments throughout the deployment using data collected in theater.

(b) Ensuring newly identified in-theater threats and risks are assessed and incorporated into the command ORM processes.

(c) Collecting data that are appropriate for inclusion in medical records.

(d) Communicating significant newly identified threats and risks to all appropriate organizations.

(4) Consolidating unit and personnel data and providing such data to the Joint Task Force/unified command personnel readiness unit. Normally, this unit provides theater-wide rosters of all deployed personnel, their unit assignments (company-sized or equivalent) and unit geographical locations to the Defense Manpower Data Center. Accurate Army personnel deployment rosters are required to assess the relative significance of medical disease/injury in terms of the rate of occurrence among the deployed population. Without the means to identify the locations of deployed personnel, it will not be possible to accurately determine potential exposures to hazardous materials and agents.

(5) Conducting pest control operations using integrated pest management guidance.

c. Post-deployment actions. The supporting unified command provides guidance to Army component commands for the following activities:

(1) In-theater activities before redeployment—

(a) Conducting timely health assessments prior to redeployment, and documenting results using the DD Form 2796 (Post-Deployment Health Assessment) questionnaire available at the AMSA Web site: http://amsa.army.mil/AMSA/amsa_home.htm.

(b) Identifying Army personnel in need of medical evaluation upon return to home/processing station based on review of medical treatment received within the area of operations, the post-deployment health assessment form, and other pertinent health surveillance data.

(c) Conducting a medical interview with deployed Army personnel within 5 days of completing the DD Form 2796 if significant health events, exposures, or individual concerns were identified. If the interview cannot be completed prior to redeployment, conduct the interview within 5 days of return to home station.

(d) Documenting significant health events, exposures, and the outcome of the interview in individual Army personnel medical records.

(e) Ensuring that significant OEH/ED-related events/exposures are included in operational after-action reports. This includes any disease outbreaks, location of industrial sources, contaminated sites, presence of disease vectors, and other operational factors that affected the overall health status (acute, chronic, or latent effects) of the deployed Army personnel.

1. These after-action reports are provided to the intelligence community (including AFMIC), the Joint Uniform Lessons Learned System and the Center for Army Lessons Learned.

2. All OEH/ED data are forwarded for analysis and archiving according to the procedures in this pamphlet.

3. These lessons learned are incorporated by medical planners into future operational planning.

(f) Developing and forwarding preventive medicine lessons learned to the Joint Uniform Lessons Learned System, the AMEDDC&S, and the Center for Army Lessons Learned.

(2) Activities at the home station or processing station of redeploying Army personnel—

(a) Screening for tuberculosis within 3 to 12 months.

(b) Collecting serum samples for HIV testing and storage in the serum repository when indicated by guidance specific to the operation.

(c) Collecting additional biological samples as warranted by the events occurring in theater or post-deployment health assessment responses and evaluations.

(d) Documenting post-deployment health concerns. (For additional information for personnel post-deployment health concerns, see <http://www.pdhealth.mil>.)

6-4. Medical criteria for deployable DA civilian employees

a. Introduction.

(1) This paragraph supplements paragraph 6-3 in this pamphlet and DA Pam 690-47, paragraph 1-10, with additional criteria and guidance for the medical evaluation of deployable DA civilian (DAC) employees. DA Pam

690–47, appendix A-5, provides a checklist of 12 specific medical individual readiness processing qualification deployment criteria. A deployable DAC is one who is preparing to deploy to an operational theater, in CONUS or OCONUS, in support of a military operation, either on a recurring or a one-time basis. Such civilians may include—

(a) *Emergency essential personnel.* The emergency essential personnel (EEP) agree to meet strict administrative and physical standards as a precondition of employment such that they may deploy worldwide to military operational environments.

(b) *Volunteers.* These are non-EEP civilian employees who are preparing to deploy to an operational theater on a one-time basis.

(2) Examining physicians must familiarize themselves with the essential job functions, including physical demands. The physician will certify that the examinee meets the medical requirements of the job and will be able to perform the essential job functions without posing a direct health threat to self or others.

(3) Any medical condition that might affect the ability of the individual to perform the essential job functions should be considered disqualifying. Medical conditions to consider are listed in NFPA 1582. The U.S. Department of Energy (DOE) provides guidance for implementing medical standards for DOE firefighters. This guidance may be useful in assessing DAC deployment qualification. This guidance is available at the DOE Fire Protection Program homepage at <http://www.tis.eh.doe.gov/fire>. Link to Guidelines and then to Technical Standards (Guidelines for Developing Medical Standards for Firefighters).

(4) In addition to the pre-deployment physical examinations, the health screening of DACs also includes the use of, and documenting results on, DD Form 2795.

(5) In addition to the redeployment physical examination guidance in DA Pam 690–47, the health screening of DACs returning from a deployment also includes the use of, and documenting results on, DD Form 2796. The post-deployment CPG may be used to help evaluate those DACs returning from deployments who have health complaints that they associate with their deployment (<http://www.pdhealth.mil>).

b. *Physical factors.* Functional job requirements for deploying DACs require cardiovascular and pulmonary fitness. Deployments to CONUS or OCONUS to support military operations, mobilizations, or major field exercises may also require the ability to live in field conditions. Functional job requirements should be noted on the Standard Form (SF) 78 (United States Civil Service Commission Certificate of Medical Examination).

c. *Environmental factors.* Environmental factors experienced during the deployment will stress deployed personnel in addition to the functional demands of the job. Environmental factors should be considered for their potential impact on any existing, diagnosed conditions in a deployable DAC. These environmental factors include—

- (1) Excessive heat, cold, dampness, chilling, and humidity.
- (2) Dry atmosphere conditions.
- (3) Excessive noise and dust.
- (4) Fumes, smoke, or gases.
- (5) Work around moving objects or vehicles.
- (6) Unusual fatigue factors, stress.
- (7) High altitude, flying in military aircraft.
- (8) Lack of fixed medical facilities.

d. *Medical history and physical examination.* Emergency essential personnel undergo periodic medical examinations to evaluate their continued ability to deploy. Volunteer personnel do not undergo similar periodic medical evaluations. However, deployment medical requirements may be identical. Specific medical conditions that preclude soldiers from deployment (for example, retention standards and flight standards) should also preclude deployment of a civilian (see AR 40–501). Pregnant DACs will not deploy. All diagnosed conditions that do not preclude deployment should be stable. A diagnosed condition should not require frequent specialty evaluations or intensive health care support.

e. *Medical history.* A comprehensive medical history should be developed for the deployable DAC. That medical history should document new or recurring problems and conditions, tobacco use, past history of treatments and surgeries, subjective assessment of cardiopulmonary capacity, changes in ability to perform job functions, and medical care required for diagnosed conditions.

(1) The medical history should provide a review of the individual's known health problems, such as major surgeries, illnesses, medication use, allergies, and symptoms that might suggest early signs of illness. The medical history should include personal and family health history. An occupational health history is also included to collect information about the person's past occupational and environmental exposures in light of the potential for additional exposures during deployment.

(2) Close attention must be paid to findings suggestive of cardiovascular disease, such as angina pectoris or suspicious chest discomfort, dyspnea, syncope, precordial palpitation, hypertension, a history of myocardial infarction, persistent pathological heart sounds, heart murmur(s), cardiomegaly, or other clinical cardiovascular finding which is significant in the judgment of the examining medical authority. Include a history of present physical fitness activity (exercise activity, for example, walks two miles three days per week at a rapid pace without undue fatigue, palpitations, dyspnea, or anginal pain).

(3) The history should reflect any changes in ability to perform functional job requirements, changes in ability to function in austere environments and climates, and any new diagnoses and surgeries within the past 12 months.

(4) The history should document the relative frequency and intensity of medical care required for any existing, diagnosed condition. Document the use of medications and medical supplies, as well as any conditions that might abruptly worsen if medication is unavailable such as diabetes, angina or seizure disorder. Alcohol and other dependencies should be assessed.

f. Physical examination.

(1) The physical examination should focus on identifying conditions that may preclude performing the related functional job requirements. The DAC should also be evaluated for the ability to perform job functions while wearing personal protective equipment, including mission-oriented protective posture (MOPP) gear, which places additional stress on the cardiopulmonary system. A functional use test while vital signs are monitored for significant changes may provide reasonable assurance that the essential job functions can be performed while wearing personal protective equipment.

(2) In addition to the physical examination components specified in DA Pam 690–47, paragraph 1–10, the following are evaluated for the purpose of deployment qualification:

(a) The dermatological system, eyes, ears, nose, and throat, to include noting any abnormalities that might interfere with the ability to wear a protective mask.

(b) The gastrointestinal, genitourinary, and metabolic systems.

(c) Symptoms suggestive of inability to remain stable with regards to consciousness, control of voluntary motor functions, and mental alertness. Consider the acuity of senses, functional capacity, and motor strength required to perform essential job functions.

g. Ancillary tests.

(1) Emergency essential personnel may have testing performed at the expense of the Government or at their own cost to assess or clarify their ability to perform their essential job functions in a deployed setting.

(2) The use of extensive diagnostic testing to determine an individual's fitness to deploy is typically not warranted, particularly in volunteer civilians. Tests may be ordered at the judgment of the examining physician, but any tests should be considered in light of their sensitivity, specificity and predictive value to identify conditions that might preclude deployment.

(3) Assessment of cardiac risk factors via history is warranted. Electrocardiograms and blood cholesterol and triglycerides may be used to determine risk for cardiac disease at the discretion of the examining physician, but follow-up evaluation of any positive findings prior to clearance to deploy will be at the expense of the employee.

(4) A baseline chest X-ray may be useful in some instances, but the chest X-ray is unlikely to be relevant to the fitness-to-deploy decision.

(5) Blood sugar control would be important in the unlikely instance a diabetic were able to deploy, but fasting blood sugar tests to attempt to diagnose undetected diabetes is not warranted in an asymptomatic individual.

h. Additional guidance.

(1) In addition to the immunizations, dental panorex, and DNA sampling discussed in DA Pam 690–47, the placement of a TST is also required prior to deployment. The theater or task force commander may require additional items for qualification for deployment to a particular area.

(2) DA Pam 690–47, paragraph 1–38, discusses HIV testing of DACs. HIV testing may be required from some host nations through the SOFA. HIV status may be important in the administration of some immunizations.

(3) Individuals requiring corrective lenses (glasses) are required to have two sets of glasses and one pair of protective mask inserts prior to deployment. The Army provides two pairs of safety glasses if job functions include work in eye-hazardous areas. Vision should be tested prior to deployment when practical and when time allows.

(4) Hearing aids, if needed, are not provided by the Army. Any needed hearing aids are provided by DACs at their own expense.

(5) Consider the nutritional content of Meals, Ready-to-Eat (MREs) and other types of rations for DACs with cardiovascular hypertension. The high salt content of some military field rations may adversely affect blood pressure.

(6) In addition to the guidance in DA Pam 690–47 regarding required medications, consider any special characteristics of medications, such as a requirement for refrigeration, in determining deploying qualification.

(7) Medical alert identification tags are provided as needed, and blood type should be determined.

Section II

Defense Occupational and Environmental Health Readiness System

6–5. Introduction

a. The DOEHRs is the exclusive tri-Service OEH/ED automated information system to manage Army OEH/ED information. DOEHRs supports the hearing conservation, industrial hygiene, occupational medicine, and deployment environmental surveillance programs within the Army and the military health system.

- b. The Army strategy for using DOEHRS provides—
 - (1) Uniform recording of OEH hazard and exposure data.
 - (2) Formatting of data for use in relational databases and statistical data sets for functional proponent trend analysis, epidemiological investigation, and cost and performance analysis.
 - (3) Early identification of potential OEH risks to allow timely preventive measures and minimize adverse impacts on mission effectiveness.
 - (4) Efficient implementation of required changes and updates.
- c. DOEHRS—
 - (1) Assembles, compares, evaluates, and stores OEH hazard and personnel exposure information, baseline medical examination data, workplace environmental monitoring data, personal protective equipment usage data, observation of work practices data, and employee health hazard education data.
 - (2) Provides preventive medicine staff, command surgeons, and commanders with data and information to enhance the selection of effective options for assessing, communicating, and reducing health risks. DOEHRS provides accurate and complete OEH information by supplying automated data collection tools and comprehensive information access tools for the industrial hygiene, occupational medicine, deployment environmental surveillance, and hearing conservation functional areas at deployed and fixed MTFs worldwide.
 - (3) Enhances exposure-based medical surveillance and OEH risk reduction.
 - (4) Contributes to the reduction of health care demand by recommending only appropriate physical exams, clinical laboratory testing, and radiological procedures and eliminating those that may not be necessary.
 - (5) Increases provider ability to determine possible causes of an illness or injury through improved access to exposure history during a clinical encounter. The exposure life-cycle tracking of DOEHRS reduces troop retraining by enabling reduced disability and improved unit health.
 - (6) Relates environmental hazard and exposure surveillance data to medical surveillance, personnel, and operational databases.

6-6. Functions

The Commander, USACHPPM—

- a. Provides staff and operates the DOEHRS Technical Integration Office, in support of the DOD Military Health System Clinical Information Technology Program Office and the DOEHRS Project Manager, until the DOEHRS-IH application achieves Initial Operating Capability.
- b. Maintains the Army Occupational Health Management Information System (OHMIS) until it is fully migrated to DOEHRS.
- c. Provides subject matter experts in support of defining functional requirements for DOEHRS applications, and in support of DOEHRS development efforts as requested from the DOEHRS Project Manager.
- d. Coordinates the deployment environmental surveillance aspects of DOEHRS with the DOEHRS Project Manager.
- e. Maintains the DOEHRS data repository as the consolidated central archive of data for the Army and DOD.

6-7. System management strategy

- a. The exclusive Army occupational health automated data system is DOEHRS. Use of DOEHRS is mandatory. Where DOEHRS is not yet installed, installations may use OHMIS.
- b. The DOEHRS Project Manager provides management and directions of the DOEHRS project with technical oversight and guidance provided through the Military Health System Clinical Information Technology Program Office.
- c. Subject matter experts identify the functional requirements for DOEHRS. Those requirements are forwarded through the appropriate DOD-level working groups for approval and prioritization for funding. The Army representative to the Tri-Service Occupational Health Integrated Product Team is the Army voting member on the DOD Occupational Health Integrated Product Team for validation and prioritization of Army functional requirements. Coordination with the AMEDDC&S ensures all newly identified requirements are addressed in future training courses.
- d. DOEHRS requirements may change over time due to regulatory changes, technological advances, and mission change. DOEHRS configuration control board has primary responsibility for change control under the DOEHRS formal configuration management process.

Section III

Occupational Health Management Information System

6-8. Introduction

- a. The Army OHMIS is migrating to the DOEHRS.
- b. Army occupational health professionals may use OHMIS until DOEHRS is deployed. The OHMIS Hearing Evaluation Automated Registry System Module has already been migrated into DOEHRS and is deployed. The

Medical Information Module (MIM) can continue to be used until the Composite Health Care System (CHCS) II is deployed.

c. The HHIM—

(1) Maintains workplace descriptions including workplace hazard inventories, employee exposures, engineering and personal protective controls, and exposure abatement efforts.

(2) Documents individual exposure histories.

d. The MIM—

(1) Automates access to present and past exposure information for both the workplace and the individual employee.

(2) Automates access, verification, and update of demographic and clinical encounter information.

(3) Generates exposure-based recommended health surveillance procedures and provides locally tailored appointment schedules.

6–9. Functions

a. Commander, MEDCOM, is the designated assigned responsible agent for operations, maintenance, and support of OHMIS until OHMIS is replaced by DOEHS.

b. Commander, USACHPPM, is the designated proponent for OHMIS.

c. The chief of the OHMIS Management Office, an organizational element of the USACHPPM—

(1) Manages and leads all functions required for the application of OHMIS as the active management information system to support the required functional areas of the Occupational Health Program until OHMIS is replaced by DOEHS.

(2) Coordinates the HHIM and MIM functional manager's efforts for the maintenance and update of reference files that reflect Army policy regarding occupational health surveillance, exposure monitoring, and exposure definitions.

(3) Responds directly to queries from the field relating to use or function of the HHIM or MIM. Coordinates these efforts with the module managers when appropriate.

d. The chief of preventive medicine services at the installation level verifies systems administration security and the proper use of OHMIS.

Section IV

Medical Surveillance

6–10. Introduction

a. The design, integration, and use of Army medical and personnel information systems must support medical and behavioral health surveillance in order to assess, maintain, and protect the health of Army personnel throughout their time in service. Such systems must be specifically configured to support the assessment of the effects of deployment on the health of Army personnel.

b. Deployment medical surveillance activities (DODD 6490.2 and DODI 6490.3) are conducted before, during, and after deployments to—

(1) Aid in the early implementation of intervention and control strategies using Army and Joint technologies, tactics, techniques, and procedures.

(2) Assist in monitoring OEH and epidemiological threats and stressors.

(3) Help assess DNBI, combat and operational stress casualties, and combat casualties, including those produced by NBC warfare threat agents.

(4) Assist in reinforcing command-directed and individual preventive medicine countermeasures and the provision of optimal medical care during and after deployments.

c. The DOD Serum Repository supports clinical diagnosis and epidemiology studies. According to DOD guidance, the repository is to be used exclusively for the identification, prevention, and control of diseases associated with operational deployments of military personnel.

d. Medical surveillance activities are extended to include essential Army civilian and contractor personnel directly supporting deployed forces (DODI 1400.32 and DODI 3020.37).

e. Medical surveillance activities regarding Army civilian employees include the collection and analysis of data related to civilian occupational disease and injury and compensation trends. Reports of this type of analysis are provided to installations, major subordinate commands, and major commands. These reports also include appropriate advice, based on the data analysis, on interventions to improve the prevention and control of occupational disease and injury.

f. AMSA provides timely, routine, and systematic collection, analysis, reporting, and archiving of pertinent health information on defined Army populations. These capabilities document the nature, magnitude, and distribution of disease and injury in Army populations. These capabilities are designed and implemented to provide useful and reliable health information to support improving and sustaining the health, fitness, and performance of Army personnel.

g. Army medical surveillance is used to help document the nature, magnitude, and distribution of health threats and

exposures; focus preventive medicine and risk communication efforts; and document the efficacy of interventions and preventive countermeasures.

h. Army medical surveillance analytical capabilities include—

(1) An epidemiological database containing current and historical data on diseases and medical events as well as DOD personnel and deployment data. AMSA also maintains a software application for remote access to the database.

(2) Epidemiological resources to provide analyses and reporting on request to commanders, medical planners, policy makers, and others.

i. AMSA operates DMSS and provides the Army interface to that system.

(1) DMSS is the DOD corporate executive information system for strategic public health decision support for the military health system. The DMSS is a relational database that includes data on all persons serving on active duty in the military at any time since 1990. Staffed by the three Services, the DMSS receives and integrates standardized data from all Services and DOD sources worldwide.

(2) The DMSS relational database continuously grows as it relates medical events (for example, hospitalizations, outpatient visits, reportable diseases, HIV results, health risk appraisals); personal characteristics (for example, rank, military occupation, demographic factors); and military experiences (for example, deployments, assignments) of all military personnel throughout their time in service.

(3) The AMSA publishes a periodic DOD medical surveillance report that includes epidemiological summaries and trends of diseases and injuries.

6-11. Functions

The commander, USACHPPM—

a. Provides capabilities to support medical and behavioral health surveillance operating at fixed installations; during training missions; and prior to, during, and after overseas deployments.

b. Provides the collection and analysis of data describing the incidence of diseases and injuries on installations, and the reporting of that analysis at least quarterly to commanders. The report also provides Army averages for comparisons as well as any appropriate recommendations for disease and injury prevention initiatives.

c. Maintains the central archive of medical surveillance data for the U.S. Army, including that related to OEH exposures.

d. Operates DMSS and coordinates efforts for DOD-wide implementation of DMSS with all appropriate medical and nonmedical organizations.

e. Operates the DOD Serum Repository according to established DOD guidance.

f. Supports military operations by—

(1) Integrating, analyzing, and interpreting medical surveillance data to assess medical and behavioral health threats and plan appropriate countermeasures.

(2) Designing and operating systems to rapidly identify medical and behavioral health threats that emerge during operations and recommend preventive countermeasures.

(3) Providing health information to the Defense Health Clinic Center relating to deployment health concerns of soldiers who have redeployed.

6-12. Reportable Medical Events System

a. The purpose of the RMES is to implement DOD and Army policies regarding the collection and timely reporting of information on cases of selected medical events and environmental injuries. The RMES is one of several medical data collection and reporting systems that contribute to the DMSS, which is maintained at AMSA.

b. The RMES is a personal computer-based system that provides the mechanism for preventive medicine personnel and other medical personnel at MTFs to record reportable medical event information and transmit that information to AMSA for analysis, reporting, and integration into the DMSS.

c. The Tri-Service Reportable Events list is the standard list of reportable medical events mandated by DOD for use by all Services. The Tri-Service Reportable Events list is found on the AMSA Web site (<http://amsa.army.mil>) under the heading of “Documents” and in the section of “Army” documents.

d. The “Tri-Service Reportable Events, Guidelines and Case Definitions, Version 1.0” booklet is available on the AMSA Web site under the heading of “Documents” and in the section of “DOD” documents. Each reportable medical event is described in the booklet and is accompanied by a case definition. This tri-Service consensus list of reportable medical events uses predetermined selection criteria derived from the stated objectives of each of the Services for medical event reporting. The use of a Tri-Service Reportable Events list and the booklet of case definitions provides for the consistent and standardized collection of reportable medical events by each Service in order to facilitate analysis and comparison of reportable medical events within and between Services. The “Tri-Service Reportable Events, Guidelines and Case Definitions, Version 1.0” booklet also includes criteria for the selection of standardized data elements, a list of synonymous terms for reportable diseases, and information on contacting the Army RMES point of contact.

e. The AMSA staff provides current versions of the RMES software for use at each Army MTF with a preventive

medicine service. Technical assistance with the RMES software can be obtained through the Army RMES project officer at AMSA. Contact information for the Army RMES project officer is available on the AMSA Web site.

(1) The RMES software users at the MTF enter data about a reportable medical event into the local RMES software as information about the reportable medical event becomes available. Case reports should be transmitted to AMSA within 24 hours after the case reports have been entered into the RMES software. All data about case reports remain available at the MTF for local utilization and analysis.

(2) Preventive medicine personnel play a key role in educating the medical staff in other clinics and the clinical laboratory about the RMES and the importance of timely reporting of medical events on the Tri-Service Reportable Events list through the RMES to AMSA.

(3) The RMES software provides the capability to generate reports and to perform basic database maintenance, operations, and analyses on the data. RMES also provides the mechanism for MTF users to download software upgrades from AMSA.

f. The "User's Reference" for the RMES software is available on the AMSA Web site under the heading of "Documents" and in the section of "Army" documents. Also available in the section of "Army" documents is the standard data collection form for reportable medical events.

Section V

Epidemiology

6-13. Introduction

a. Diseases normally occur in populations within a range of predictable rates. When a disease occurs more often than expected, this may represent a normal condition that occurs rarely due to chance, or it may reflect an abnormal increase, often referred to as an outbreak or epidemic. Patterns of disease occurrence are also predictable within populations. When a disease deviates from its usual behavior in space and/or time, this may represent an abnormal aggregation or cluster. Detecting abnormal disease rates and patterns, and distinguishing these from normal but unusual occurrences is one of the principal goals of epidemiologists. FM 4-02.33 provides detailed medical information on the control of communicable diseases in man.

b. The EPICON service is the central epidemiological investigative resource for the Army. The range of services includes support from electronic and telephonic consultations to on-the-ground investigation teams at local sites. Certain situations may necessitate deployment of a preventive medicine augmentation response team. EPICON services are available to support Army medical organizations worldwide.

c. The scope of EPICON investigative activities include—

- (1) Infectious diseases.
- (2) Occupational diseases.
- (3) Chronic DNBI's.
- (4) Public health aspects of humanitarian and disaster relief operations.
- (5) Other situations involving the application of epidemiological methods.

d. The appropriate requesting medical authority provides operational control of an EPICON as well as local administrative and logistical support.

6-14. Functions

a. The Commander, USACHPPM—

- (1) Provides EPICON services for the scope of EPICON activities listed above.
- (2) Provides the epidemiological resources to maintain a DOD epidemiological database and to perform analysis and reporting of military public health information, in support of DOD comprehensive military medical and behavioral health surveillance.

b. The MTF commanders—

(1) Provide preventive medicine resources to adequately detect and investigate potential outbreaks of disease in populations within their area of responsibility.

(2) Create, maintain, and utilize plans to rapidly detect and respond to outbreaks. Each MTF should have an outbreak response plan that elucidates local investigative capabilities and includes—

- (a) Standards for surveillance and procedures for analysis of data.
- (b) Schedules for review of disease trends.
- (c) Thresholds at which a response is to be initiated.
- (d) Meaningful involvement of local health department and affected community members.
- (e) Staffing considerations.
- (f) Timely notification to RMC and preventive medicine and public health personnel.
- (g) Evaluation of effectiveness of response.

(3) Ensure that medical surveillance, analysis and response functions are codified in local plans and SOPs. Local policies and practices should adhere to all DOD, DA, and MEDCOM regulations, policies, and directives.

c. Preventive medicine personnel—

(1) Monitor disease trends in the population served and investigate increases in disease rates or changes in patterns of disease occurrence when pre-established thresholds are crossed.

(2) Investigate, in coordination with Army safety personnel, employee reports of unhealthy working conditions.

(3) Notify Army safety personnel of any imminent danger situations according to AR 385–10.

6–15. Procedures

a. Epidemiological investigations are conducted when occupational illnesses are suspected or have occurred. Apparent excessive numbers of occupational injuries are reported to Army safety personnel.

b. When epidemiological investigations require resources beyond local capabilities, preventive medicine services should contact the next higher preventive medicine level within their RMC and/or the appropriate regional USACHPPM subordinate command.

c. Timely and efficient flow of accurate information is essential to the successful completion of any epidemiological investigation. Communication channels must be opened and maintained among all parties involved. Figure B-1 depicts the information flow for outbreak investigations at a CONUS installation.

d. Local preventive medicine services should always submit required reports to AMSA through the RMES as soon as possible after suspected or confirmed diagnosis of a reportable event. (See the Tri-Service Reportable Events list.) Certain cases may also warrant a Significant Incident Report (SIR) to be completed and submitted through command channels. Consult the local commander for guidance.

e. TB MED 530 provides detailed information on food service sanitation, which can assist preventive medicine personnel in the epidemiological investigations of suspected or known food-borne illness outbreaks.

f. Electronic or telephonic consultation with epidemiologists at USACHPPM may be obtained by contacting the Directorate of Epidemiology and Disease Surveillance. EPICON services that require USACHPPM personnel to deploy are available by contacting MEDCOM/OTSG (for preventive medicine augmentation response teams) or Deputy Chief of Staff for Operations (DCSOPS) at USACHPPM–Main (for EPICON).

Chapter 7 Soldier, Family, Community Health, and Health Promotion

Section I Background

7–1. Introduction

a. Army preventive medicine provides soldier, family, and community health programs and services that incorporate the entire health-illness continuum and practices for individuals, families, small groups, and large populations. These preventive medicine activities support the goals of readiness, combat efficiency, work performance, and quality of life for all military health system beneficiaries.

b. The Headquarters, Department of the Army (HQDA) Deputy Chief of Staff, G–1 (DCS, G-1) is the proponent for the Army Health Promotion Program. AR 600–63 defines the Army Health Promotion Program and implements DODD 1010.10. This single, integrated Army program combines all health education and related organizational, social, emotional, spiritual, and health care activities to improve or protect health. The community health and health promotion activities of Army preventive medicine support the Army Health Promotion Program, assisting TSG in executing his responsibilities as defined in AR 600–63.

c. Preventive medicine community health and health promotion activities are planned and delivered across the spectrum of military operations and throughout the military health system, both in CONUS and OCONUS.

d. Well-planned and executed soldier, family, community health and health promotion activities—

(1) Must support soldier health and medical readiness.

(2) Should be based on community needs assessment, program plans, and prioritization of program elements.

(3) Can improve the discovery and assessment of actual and potential health problems of individuals, families, and communities.

(4) Can provide the planning and support necessary for continuity of health care during the transition from hospital to home care and from institutional to self-care.

(5) Allow for coordinated and efficient use of Army community health nursing, behavioral health, and other preventive medicine resources.

e. Effective soldier, family, and community health, and health promotion activities can enable individuals and families to—

- (1) Better understand their health problems and ways to cope with them.
- (2) More easily change their behavior or their environment to improve their health and safety.
- (3) Obtain health care and other services they may need but cannot provide for themselves.
- (4) Obtain health service support in times of stress as an interim measure while they learn to resolve or accept their situation.

7-2. Functions

a. TSG, assisted by the Functional Proponent for Preventive Medicine, and the consultants to the Chief of the Army Nurse Corps for health promotion and wellness and community health nursing, provides strategies, guidance, consultation, and assistance to commanders in planning and implementing soldier, family, community health and health promotion activities.

b. MEDCEN, MEDDAC, and DENTAC commanders share responsibility for the entire spectrum of health care for military health system beneficiaries in their geographic areas of responsibility. They plan, program for, and resource soldier, family, community health, and health promotion activities tailored to their area of responsibility and its beneficiary population.

c. The Commander, USACHPPM—

- (1) Provides consultation, tools, and assistance to support TSG's responsibilities outlined in AR 600-63.
- (2) Assists in implementing population-based health activities that link medical outcomes, epidemiology, and individual, community, and family health initiatives.

d. The MEDCEN or MEDDAC chief, preventive medicine services—

- (1) Serves as the principal health advisor to the medical commander for community-based issues.
 - (2) Represents the medical commander to the community and the installation health promotion coordinator.
- e.* The MEDCEN or MEDDAC chief, community health nursing services, assists in planning, developing, implementing, and evaluating soldier, family, community health, and health promotion activities for eligible beneficiaries.

f. The CHNs—

(1) Conduct comprehensive community or population health assessments to identify sub-populations, characterize their health, assess needs for community health services, and identify available resources. Sub-populations include families and individuals at risk of illness, injury, disability, or premature death as well as those who could benefit from health promotion services.

(2) Plan, develop, organize, implement, and evaluate health services based on community health needs, morbidity trends, and available resources.

(3) Assist groups within the community to develop local health policies.

(4) Advocate the special needs of individuals in the community setting and may provide home visits when warranted for health or safety assessments.

(5) Train, monitor, and advise other health care personnel in community health and health promotion principles.

(6) Prescribe medications, x-rays and laboratory studies as authorized by the MEDCEN and/or MEDDAC credentials committee according to AR 40-68.

(7) Provide case management services in communicable and chronic diseases (see paragraphs 7-7 and 7-10 of this pamphlet).

(8) Serve as consultant to child and youth services (CYS) staff according to AR 608-10 and as directed by the MEDDAC and/or MEDCEN commander.

g. The MEDCEN or MEDDAC chief, community behavioral health services—

(1) Serves as the principle advisor to the medical commander for individual and community-based behavioral health issues.

(2) Ensures that individual, family, community behavioral health, and behavioral health promotion activities for the eligible beneficiaries are planned, developed, implemented, and evaluated according to AR 40-216 and AR 600-63.

Section II

Soldier Health

7-3. Introduction

a. Army preventive medicine exists, first and foremost, to help provide a healthy and fit force and to help sustain health and fitness, protecting soldiers from occupational, environmental, and operational threats of DNBI. Preventive medicine personnel, such as CHNs, provide the screening, health education, health promotion, and surveillance services that link soldiers and their units to the supporting MTF.

b. MTFs provide the following services to soldiers and their units:

- (1) Pre- and post-deployment medical threat information and oversight of the screening form process.
- (2) Communicable disease surveillance.
- (3) Health education.

- (4) Health promotion.
- (5) Information for commanders about health risk trends within their commands.

7-4. Soldier medical readiness

a. Medical readiness activities prepare soldiers for the full spectrum of operational deployments, both CONUS and OCONUS. AR 600-8-101 addresses the medical components of soldier readiness. Army community health nursing can provide the following services to assist soldier medical readiness:

- (1) Direct oversight of the pre- and post-deployment screening completion.
- (2) Direct oversight of the distribution of pre-deployment health information products.
- (3) Provision of medical threat briefings.
- (4) Advocacy for health issues affecting military women.

b. Individual soldier medical readiness data are recorded and reported through the readiness modules in the Medical Protection System (MEDPROS) element of the Medical Operational Data System (MODS). Other MODS-compatible clinical data tracking systems can be used to record individual soldier readiness data as well, if the systems have an interface with the MEDPROS element of MODS.

7-5. Soldier dental readiness

a. Oral health is the state of optimal oral function and well-being; it is the absence of disease, injury or parafunctioning of the oral tissues. Dental readiness is an integral part of soldier readiness. Soldiers are considered dentally ready if they are categorized in Dental Fitness Classification (DFC) 1 or 2.

b. As outlined in the Health Affairs Policy 02-011 (<http://www.ha.osd.mil/policies/2002/02-011.pdf>), soldiers classified as DFC 1 do not require dental treatment or reevaluation. Soldiers in DFC 2 require non-urgent dental treatment or reevaluation for oral conditions which are unlikely to result in dental emergencies within 12 months. DFC 3 soldiers require urgent or emergency dental treatment and suffer dental emergencies during deployments at a significantly higher rate than DFCs 1 and 2. Synergistic community and clinical interventions are needed to achieve and maintain optimal oral health for soldiers and their dependents.

c. Dental readiness components include—

- (1) Annual dental examination requirement.
- (2) Monthly dental readiness reports to unit commanders about the dental risk profile of the unit.
- (3) Priority appointment availability for those at high risk or without recent dental examinations (dental class 3 and 4).
- d. Other aspects of dental health are covered under oral health promotion in Section IV.
- e. A Dental Readiness Reporting module of the MEDPROS element of MODS supports individual and unit dental readiness status reporting.

7-6. Community health support of Army operations

Community health programs and services are particularly designed to support operational missions, both in CONUS and OCONUS, that have a strong public health component, such as humanitarian assistance and disaster relief. Components of such community health support services include—

- a. Rapid health assessments.
- b. Establishment of basic sanitary conditions in temporary camps or shelters.
- c. Programs and services to minimize disease outbreaks.
- d. Community health liaison with governmental and non-governmental organizations.
- e. Immunizations and medical screenings in conjunction with governmental and non-governmental organizations.
- f. Implementation monitoring of individual and group preventive medicine countermeasures.
- g. Advice and assistance to commanders and leaders regarding the selection, use, and assessment of preventive medicine countermeasures.
- h. Communicable and infectious disease surveillance.
- i. Epidemiological investigations.
- j. Health information collection, analysis, and interpretation.

7-7. Communicable disease prevention and control

a. Communicable disease control services in this chapter focus on health education, disease screening, and individual counseling activities that complement and support the communicable disease control activities discussed in chapter 2.

b. Communicable disease control services are provided to—

- (1) Identify risk factors associated with specific communicable diseases.
- (2) Promote knowledge regarding risk factors associated with the development of communicable disease risks.
- c. The chief, community health nursing, in coordination with primary care medical staff—

- (1) Provides awareness services to inform the community of identified risks and related illnesses.
- (2) Provides education to facilitate modification of lifestyle behaviors associated with increased communicable disease risks.
- (3) Identifies individuals at risk of developing communicable disease through targeted screening.
- (4) Ensures epidemiological contact investigations are completed to ensure proper medical evaluation and treatment of all patients.
- (5) Assists in training of individuals conducting STD contact investigations, education, and counseling.

Section III

Family and Community Health

7-8. Community health needs assessment

The community health needs assessment is conducted by preventive medicine personnel and should be included in the planning and budgeting for the MTF's preventive medicine services.

- a. A community or population needs assessment provides information about the target population and its health. The scope of the community assessment is determined by the purpose of the assessment and the complexity and nature of the target population.
- b. Community health personnel, such as CHNs, analyze the needs assessment data to describe the nature and extent of existing problems and provide a community health diagnosis.
- c. Goals and objectives are established based upon a prioritization of needs. Interventions that impact soldier readiness should have high priority.
- d. Based on these goals and objectives, community-focused interventions are identified, implemented, and evaluated.
- e. An analysis of intervention outcomes provides feedback for improving community health products and services.
- f. The chief, preventive medicine, provides advocacy, resources, and accountability.

7-9. Community health referrals

- a. DA Form 3763 (Community Health Nursing – Case Referral) or an electronic equivalent provides a means for medical and allied health personnel to refer individuals and families for community health nursing services. The CHN may use this form to refer patients to other military and civilian health and welfare agencies, or to CHNs at other military installations. Referral documentation is prepared according to AR 40-407.
- b. Telephonic referrals are acceptable for emergency situations or to alert the CHN of the written referral.
- c. Cases for referral to the CHN may include but are not necessarily limited to—
 - (1) Patients requiring health counseling regarding control of communicable or chronic diseases.
 - (2) Patients requiring short-term assistance or evaluation when moving from the hospital to the home setting.
 - (3) Infants with a diagnosis of failure to thrive if not substantiated by an underlying medical diagnosis.
 - (4) Single, pregnant soldiers requiring health counseling and assistance throughout their pregnancy.

7-10. Chronic disease prevention and control

- a. Chronic disease control services target individual and population risks associated with the development of long-term illnesses such as diabetes, hypertension, and heart disease. Services include health education, disease screening, and individual counseling.
- b. Chronic disease control services related to lifestyle are provided to—
 - (1) Identify risk factors that are associated with specific chronic diseases.
 - (2) Evaluate and provide guidance to control factors associated with the development of chronic disease.
 - (3) Promote knowledge regarding risk factors associated with the development of chronic disease.
- c. The chief, community health nursing, in coordination with primary care adult medicine staff and the MTF Prevention Oversight Committee—
 - (1) Provides awareness services to inform the community of identified lifestyle risks and related illnesses.
 - (2) Facilitates, through education, modifiable lifestyle behaviors associated with increased disease and illness risks.
 - (3) Identifies, through targeted screening, individuals at risk of developing chronic disease.
 - (4) Functions as case manager in chronic disease cases as time and resources permit.

7-11. Case management

- a. Case management (according to TRICARE Management Activity) is a collaborative process under the population health continuum that assesses, plans, implements, coordinates, monitors, and evaluates options and services to meet an individual's health needs through communication and available resources to promote quality, cost-effective outcomes.
- b. CHNs are uniquely qualified to be consultants in the case management process to provide oversight for or to function as case managers for patients in a variety of situations and conditions.

- c. CHNs may also be key consultants in the discharge planning process at the local MTF.

7-12. Child and youth services

a. Child health services address the physical, developmental, and emotional health of children. The program involves all elements of health promotion, health maintenance, and health education services developed for this age group, to include child development services support according to AR 608-10.

b. Community health nursing services include—

(1) Collaboration with pediatric services and other military and civilian health and welfare organizations regarding community-based programs that support families of health-risk children.

(2) Consultation with CDS staff regarding communicable disease control and disease prevention.

(3) Assistance for CDS staff with special needs infants and children.

(4) Health consultation for installation CYS (the CHN serves as a member of the CYS special needs resource team (SNRT)).

(5) Consultation with CDS staff and parents concerning education and training in health-related areas.

c. Other preventive medicine services include—

(1) Sanitation and environmental health support to CDS staff, operations and facilities as described in AR 608-10 and TB MED 530.

(2) Consultation and inspection of CDS facilities according to Federal, state, and local policies.

7-13. Health of school-age children

a. Health activities address the physical and emotional well-being of school-aged children.

b. Community health nursing services include—

(1) Health program consultation for on-post dependent schools that are not otherwise provided with public health nursing services.

(2) Liaison with nursing services at schools attended by military family members.

7-14. Childhood lead poisoning prevention

a. Childhood lead poisoning prevention services are intended to minimize children's exposure.

(1) AR 420-70 and AR 200-1 require that lead hazards from all sources be identified and mitigated.

(2) Clinical services include—

(a) Parental questionnaires to check for potential lead exposure as recommended by the American Academy of Pediatrics at well-child examinations beginning at 6 months of age through 6 years.

(b) Targeted child blood lead screening as determined by the installation medical commander.

(c) Clinically indicated screening of children at high risk for lead exposure.

(d) Elevated blood lead case management.

(e) Physician oversight.

b. Installation lead hazard management services include—

(1) Identification and mitigation of lead hazards.

(2) Medical surveillance, industrial hygiene services, and hazardous waste consultation.

(3) Elevated blood lead investigations.

(4) Outreach and education on lead hazards for parents and other personnel.

c. A collaborative effort to prevent childhood lead poisoning includes involvement by pediatricians, industrial hygienists, environmental science officers, laboratory officers, commanders, health nurses, installation engineering support personnel, and the installation safety officer.

7-15. Spousal and child abuse

a. The Army Family Advocacy Program is established by AR 608-18 and provides prevention, identification, and treatment services for spouse and child abuse.

b. Community health nursing services include—

(1) Participation as a voting member of the case review committee (CRC).

(2) Services directed toward prevention of spouse and child abuse through health education to individuals, families, and groups, and coordination of such efforts with the Army Community Service family advocacy committee staff. Examples of services include new parent support, parenting, and child development concerns.

(3) Direct services to selected high-risk families and home assessment for safety and teaching in parenting skills.

(4) Nursing consultation for the CRC to provide nursing input to the assessment, intervention, and evaluation process of individual cases.

(5) Referrals of cases dealing with suspected spouse or child abuse and neglect to the reporting point of contact.

(6) Family health nursing for referrals received from the CRC.

(7) Nursing assessments of the family in the home when indicated.

c. Behavioral health personnel are the proponents for the Army Family Advocacy Program according to AR 608–18.

7–16. Family safety

a. Family safety addresses common hazards in the home and provides safety instruction to families on how to prevent injuries.

b. Community health nursing services include—

(1) Home safety assessments as part of all home visits.

(2) Family safety education.

(3) Assessments of reported home accidents resulting in medical care of high-risk populations (children less than 2 years or older adults).

7–17. Women's health

a. Maternal health program elements support the normal prenatal and postpartum concerns of beneficiaries. Maternal health services promote a safe and healthy work and home environment for the well-being of the mother and the normal growth and development of the fetus or newborn child.

b. The CHN, in coordination with obstetrical/gynecological services, social work services, and other leaders and organizations within the military community—

(1) Supports or identifies prenatal and newborn health education classes for the community.

(2) Advocates for health issues affecting military women to include—

(a) Pregnancy/postpartum physical fitness program.

(b) Unintended pregnancy.

(c) Identification of military and community resources.

c. The OHN, in coordination with the occupational health physician—

(1) Informs the pregnant employee of any job hazards in her work environment and the potential effects of those hazards on her and her fetus.

(2) Participates in prenatal education programs on job hazards and pregnancy.

Section IV

Health Promotion Programs and Services

7–18. Health risk appraisal

a. Health risk appraisals are self-reporting tools that aid in estimating an individual's risk of experiencing morbidity or mortality from one or more health risks. Health risks are generally the result of behavioral, environmental, or hereditary factors. Health risk appraisals can be used by providers of community health services for individual counseling in risk modification and identification or, when data are aggregated, to identify population health risks.

b. The DOD has designated the Health Enrollment Assessment Review as the official health risk appraisal for use with TRICARE Prime beneficiaries (TRICARE Policy Letter 97–003). Its primary use is for the forecasting of health services utilization. It is completed at enrollment in TRICARE Prime.

c. Other health risk appraisal tools for specific concerns (that is, nutrition, stress or ergonomics) and for specific populations (seniors) are available and may be used by providers of community health services to supplement a health promotion program.

7–19. Tobacco use cessation

a. Tobacco use impacts readiness by impairing physical fitness, increasing susceptibility to disease, and increasing health care costs. AR 600–63 provides guidance for health education and tobacco cessation programs for the Army. The current DOD/VA Tobacco Cessation CPG is the standard for clinical implementation of tobacco cessation interventions.

b. Training regarding the use of tobacco and related health problems is provided in all basic and advanced courses for all military personnel. Topics include—

(1) Health risk factors.

(2) Safety risk factors in a field environment including fires and light discipline.

(3) Nicotine as a drug.

(4) Methods to quit using tobacco products.

(5) Referrals to tobacco use cessation programs.

c. Installation commanders provide tobacco cessation services to eligible beneficiaries as part of their local health promotion program.

d. Tobacco use cessation services are most successful when a multidisciplinary team approach is used. Team

members may include health care providers (physicians, nurses, physician assistants, and nurse practitioners), nutritionists, behavioral health providers, health promotion coordinators, and fitness trainers.

7-20. Nutrition

a. Body composition, activity level and nutrition impact a soldier's mental, physical and emotional health. Inadequate and over nutrition negatively impact a soldier's ability to perform mentally and physically. AR 40-25/ BUMEDINST 10110.6/AFI 44-141 and AR 600-63 provide guidance for nutrition education programs.

b. Minimum nutrition training includes—

- (1) Food Guide Pyramid and the Dietary Guidelines for Americans.
- (2) Weight management.
- (3) Use of dietary supplements.
- (4) Nutrition for specific diseases such as hyperlipidemia and diabetes.
- (5) Sports nutrition.

c. Nutrition education programs are more successful when a multidisciplinary approach is used. Appropriate disciplines include medicine, nursing, nutrition, behavioral health, health promotion, and physical therapy.

d. The dietitian at the local MTF collects outcome information and archives the information in the Nutrition Management Information System or its web-based alternative.

7-21. Stress management

a. Army Community Services, the American Red Cross, or community health services providers from the local MTF should provide stress management classes and psychoeducational group meetings at each installation.

b. The actual course instructor or group leader should be certified to teach the material. In the case of a psychoeducational group, the group leader should be a licensed behavioral health care provider or a psychiatric clinical nurse specialist.

7-22. Alcohol and substance abuse prevention and control

AR 600-85 and DA Pam 600-85 govern alcohol and substance abuse prevention and designate functional responsibilities for medical personnel.

7-23. Suicide prevention

a. AR 600-63, paragraph 5-2, establishes the Army Suicide Prevention Program under the proponentcy of the HQDA DCS, G-1. DA Pams 600-24 and 600-70 provide implementing instructions and guidance. The goal of the program is to minimize suicidal behavior for Active and Reserve Component soldiers, Army civilians, and Active Component family members. Suicidal behavior includes completions; non-fatal self-injurious events in which the individual's intent was to die (attempt) or the individual was at risk of death without the intent to die (gesture); and suicidal ideation including thoughts of or fascination with death.

b. The Army goal is founded on the premise that many suicides are preventable. The American Association of Suicidology estimates that approximately 80 percent of suicidal individuals give definite danger and warning signs of their intentions. If Army personnel are vigilant, aware, and appreciate the significance of these danger and warning signs, and know how to properly intervene, suicidal behavior will be minimized.

c. Suicide prevention is an evolving science. It is the Army's responsibility to use the best-known available methodology in caring for soldiers, retirees, civilian employees, and family members. Successful prevention of suicidal behavior is based upon an environment in which—

(1) Those in the military community at risk for suicide will be quickly identified and will receive intervention and appropriate care.

(2) Help-seeking behavior is encouraged and accepted as a sign of individual strength, courage and maturity.

(3) Positive life-coping skills are taught and reinforced by all leaders.

d. The AMEDD is a critical component of the Army's multidisciplinary effort to prevent suicidal behavior. The AMEDD supports the HQDA DCS, G-1's implementation of the Army Suicide Prevention Program by providing the following products and services:

(1) Suicide risk identification and intervention training for those health care providers likely to come in contact with individuals at risk for suicide.

(2) TSG representation on, and consultant support to, the DA Suicide Prevention Working Group and the DOD Suicide Prevention and Risk Reduction Committee (SPRRC).

(3) Suicide prevention best-practice products for use throughout the Army.

(4) Technical and consultative support for Army suicide prevention initiatives, including assisting the chief of chaplains in training unit ministry teams in suicide prevention, intervention, and postvention. AMEDD personnel also provide consultative support to installation suicide prevention task forces and committees.

7-24. Spiritual health and fitness

Spiritual health and fitness can contribute to medical readiness and soldier performance by improving a person's sense of well-being and confidence. (See AR 600-63.)

7-25. Oral health

a. Oral health activities, in addition to the dental readiness activities for soldiers, include preventive dentistry for children, clinical preventive dentistry, and community preventive dentistry. These activities include—

- (1) A community oral health protection program consisting of—
 - (a) Clinical care and health promotion.
 - (b) Community oral health promotion and disease prevention.
 - (c) Community oral health protection reporting.
- (2) Oral health education materials for the targeted population using a variety of media.
- (3) Oral screenings (with parental consent) and age-appropriate oral health instructions to children in DOD schools.
- (4) Semiannual reporting on community oral health protection through channels to U.S. Army Dental Command with copy of the report provided to the installation commander within 30 calendar days of completion of the report.
- (5) Advocacy of oral health promotion interventions for implementation in Army dental clinics to prevent oral disease and injury and promote health.

b. The following preventive services should be provided to eligible beneficiaries:

- (1) Patient risk assessment for dental caries and periodontal disease during initial or periodic oral evaluations.
- (2) Sealants of teeth at risk for dental caries, regardless of patient age.
- (3) Mouth guards for patients who are at elevated risk for oro-facial trauma.
- (4) Tobacco cessation counseling to all patients who use any form of tobacco.
- (5) Examination during a patient's periodic exam for lip and oral cancer and other illnesses.
- (6) Application of an American Dental Association-approved topical fluoride agent, unless contraindicated, following a dental prophylaxis. The method, dose, and frequency of any fluoride therapy should be based upon oral disease risk assessments and other fluoride exposures.
- (7) Oral hygiene instructions and nutrition counseling.

c. Dental providers are required to report suspected cases of family abuse and neglect (AR 608-18).

d. Active-duty soldiers or patients needing emergency care have priority over patients being provided preventive services.

Chapter 8 Preventive Medicine Toxicology

8-1. Introduction

a. Toxic substances contained in products and materials in the military system, military waste products, and occupational and environmental chemical hazards can result in adverse effects on human health and the environment. Preventive medicine toxicology laboratory and consultative services are provided to help identify, assess, and eliminate or control the potential human health threats posed by these factors as a result of military activities and operations.

b. Preventive medicine toxicology laboratory capabilities include—

(1) Toxicity screening and exposure-specific testing of military-relevant materiel and chemicals (not including chemical warfare agents), their degradation products, and toxic industrial and agricultural chemicals. This includes new and developmental substances and materiel. Testing capabilities include short-term single dose tests as well as longer-term repeated dosing by various exposure routes in mammalian and non-mammalian species.

(2) Gross pathology and histopathology services, clinical chemistry, and hematology testing in support of toxicity evaluation of materials being considered for military use.

(3) Development and use of chemical and biologically based methods and test systems to rapidly identify and determine the health effects of toxic materials and their transport through all environmental media.

(4) Development and use of methods to improve the prediction and assessment of human health and ecological effects from military environmental contaminants.

c. Preventive medicine toxicology consultative services include—

(1) Formal Toxicity Clearances according to AR 40-5, AR 70-1, and DA Pam 70-3. A Toxicity Clearance is a toxicological evaluation of a chemical or material prior to its introduction into the Army supply system.

(a) Toxicity evaluations are performed and Toxicity Clearances are issued. Materials are conditionally approved based on a chemical's exact formulation for a specific application. Requirements for safe use and handling of the material for a specific application are also identified in the Toxicity Clearance. A Toxicity Clearance is required of all new materials and chemicals being introduced into the Army supply system. See AR 70-1, paragraphs 2-1t, 2-2x,

2–3w(2), and 4–3e(6); and AR 40–5, paragraph 1–5m. Before introducing any new material, either a commercial or military-unique product, the program manager or individual authorized to add chemicals or materials to the Army supply system is required to request a Toxicity Clearance for that product.

(b) A request for a Toxicity Clearance is submitted through the U.S. Army Materiel Command (AMC) Surgeon's office to USACHPPM. Detailed technical information provided with the Toxicity Clearance request will aid in a timely toxicity evaluation and approval for the program. Each Toxicity Clearance request should identify the new chemical or material; its manufacturer with address, technical point of contact and phone number; specific use conditions or application; and any technical information supplied from the manufacturer including—

1. Scope and use in the commercial marketplace.
2. Any human or animal toxicity study information.
3. A material safety data sheet (MSDS).
4. Any adverse human health effects reported.
5. The chemical or process being replaced.

(2) Formal Toxicity Profiles for new Army materials. Toxicity Profiles are consequence-of-use evaluations of a material or chemical with possible multiple applications. The Toxicity Profile identifies chemical properties, evaluates completed toxicity testing, and lists additional toxicity testing requirements that may be needed for issuance of a Toxicity Clearance. A Toxicity Profile is a tool that may be used by Army decision makers to help evaluate toxicity issues related to possible future use of a material.

(3) Health risk toxicity evaluations using electronic toxicology databases, literature reviews, and consultation with experts in toxicology and related health specialties.

(4) Review of new and revised standardization documents such as military specifications, military and Federal standards, non-Government standards and commercial item descriptions for potential toxicity concerns.

(5) Toxicity evaluation and interpretation in support of the HHA Program (AR 40–10), a domain of manpower and personnel integration in the system acquisition process (AR 602–2). This includes recommendations concerning options based on realistic risk-to-benefit ratios with respect to Toxicity Clearance.

(6) Development of health-based toxicity values for use in cleanup of contamination resulting from military activities.

(7) Chemical hazard identification, health risk assessments, and exposure control advice.

(8) Advice on personal protection and other countermeasures to avoid or minimize potentially hazardous exposures.

(9) Review and validation of health-based rationale for substitute or replacement materials proposed under the Army Pollution Prevention Program.

(10) Veterinary pathology consultative services.

8–2. Functions

a. Commander, USACHPPM—

(1) Performs Toxicity Clearances and provides Toxicity Profiles when requested.

(2) Provides the toxicity screening, exposure-specific testing, histopathology services, clinical chemistry, and hematology testing laboratory capabilities to support preventive medicine toxicology services.

(3) Develops health-based environmental restoration criteria.

(4) Develops and uses chemical methods and test systems to rapidly identify the potential health effects of toxic materials and the transport of military relevant toxic materials in the environment.

(5) Develops and uses methods to improve the prediction and assessment of human health effects of military-relevant materials, including environmental contaminants.

(6) Provides the preventive medicine toxicology consultative services described in paragraph 8–1c, above.

(7) Coordinates with USAMRMC to ensure that preventive medicine toxicology needs, such as screening tools, test methods, instrumented animal models, sensors, and criteria and standards, are considered in the prioritization of medical materiel research, development, and acquisition efforts.

(8) Coordinates with the AMEDDC&S to ensure that preventive medicine toxicology materiel requirements are identified, validated, and addressed through the doctrine, organizations, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) process.

b. Commander, USAMRMC, will consider preventive medicine toxicology needs in identifying, prioritizing, and conducting medical materiel research, development, and acquisition.

c. MACOM program managers are responsible for requesting from the commander, USACHPPM, through their MACOM surgeon's office, a formal Toxicity Clearance, appropriate toxicology consultation, and recommendations on the safe handling and use of new materials or products introduced into the Army Acquisition System.

Chapter 9

Preventive Medicine Laboratory Services

9-1. Introduction

a. OEH hazards, risks, and exposures are assessed and documented using preventive medicine laboratory services. Field preventive medicine laboratory services are provided as discussed in the Army publications identified in chapter 3. MEDCOM assets, to include MEDDACs, MEDCENs, and USACHPPM; other DOD or Federal laboratories; and commercial laboratories are sources of such laboratory services for the sustainment base.

b. The sources and nature of laboratory services provided by preventive medicine services in each MEDDAC or MEDCEN varies according to the—

- (1) Size, location, and mission of the installation.
- (2) Mission of the units supported.
- (3) Number and specialties of personnel assigned.
- (4) Nature and extent of hazards and risks identified.
- (5) Local government requirements.
- (6) Local needs for routine, recurring, as well as nonroutine sampling and analytical services.

9-2. Functions

a. The Commander, MEDDAC or MEDCEN—

(1) Provides preventive medicine laboratory services sufficient to assist in the assessment and documentation of the hazards, risks, and exposures in the MEDDAC or MEDCEN geographical area of responsibility. These routine and nonroutine services may be provided by a variety of sources.

(2) Requests assistance from USACHPPM when local preventive medicine laboratory services are not adequate to address occupational or environmental compliance or contamination issues.

b. The Commander, USACHPPM, provides laboratory services according to the levels of preventive medicine support discussed earlier. Additional information is available at the following USACHPPM Web sites: <http://chppm-www.apgea.army.mil/dls/pub.asp> and <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG214.pdf>. USACHPPM provides support through either in-house capabilities or assistance in finding other sources of necessary laboratory services.

c. The local preventive medicine service—

(1) Coordinates with the appropriate USACHPPM laboratory, when local preventive medicine laboratory services are not adequate, for the area of responsibility 30 days before sample collection for routine analyses. If the unit has samples analyzed locally, proper coordination should be arranged.

(2) Immediately contacts the appropriate laboratory for emergency sample analysis support.

(3) Submits a written sample request memorandum to the appropriate USACHPPM laboratory (CONUS or OCONUS) via e-mail or facsimile (fax) as follows:

(a) USACHPPM–Main (chppm-sampnews@apg.amedd.army.mil) (fax numbers DSN 584–4108 or commercial 410–436–4108).

(b) USACHPPM–Europe (dls-hotline@cpe.amedd.army.mil) (fax numbers DSN 314–486–7054 or commercial 011–49–6371–86–7054).

(c) USACHPPM–Pacific (chppmpac-lab@jpn.amedd.army.mil) (fax numbers DSN 315–263–8597 or commercial 011–81–3117–63–8597).

(4) Provides the laboratory services necessary for implementing TB MED 575 and TB MED 576, or the FGS or OEBGD for OCONUS activities (DODI 4715.5).

(5) Provides the laboratory services necessary for implementing a local industrial hygiene program, according to DA Pam 40–503.

9-3. Certification and accreditation

a. Government regulatory agencies require that laboratories performing analyses meet a third party certification and/or accreditation program. These regulators include states, host nations, and DOD or Federal entities. Examples of third-party certification and/or accreditation programs are the DOD Clinical Laboratory Improvement Program (CLIP), College of American Pathologists, Commission on Laboratory Accreditation, and American Association for Laboratory Accreditation. Since certifications and accreditations are granted for specific analyses, requestors of analyses are required to verify the laboratory credentials before submitting samples. This ensures that the scope of certification and/or accreditation covers the requested analyses.

b. CONUS laboratories conducting nonclinical toxicology studies are required to conduct these studies in compliance with the applicable EPA and FDA Good Laboratory Practice (GLP) regulations. Laboratories conducting nonclinical toxicology studies OCONUS are required to conduct these studies in compliance with Organization for Economic

Cooperation and Development GLP. All laboratories conducting studies involving animals are required to be accredited by a third party accrediting body such as the American Association for Accreditation of Laboratory Animal Care.

c. Preventive medicine organizations using contract laboratories are responsible for verifying the quality of laboratory services and data. These contracted laboratories are required to meet the same certification and/or accreditation program as any in-house preventive medicine laboratory service.

d. Preventive medicine organizations can assess contract laboratories through—

(1) The specification of exact analytical methods to be used, required accreditations/certifications, quality system requirements, data acceptance criteria, required timeliness, data deliverables, and remedy clauses in the contract statement of work.

(2) The pre-qualification of the contract laboratory prior to contract award to include an on-site assessment and performance evaluation.

(3) The use of spiked samples with values unknown to the contractor.

(4) The review and evaluation of the results of third-party assessments of contract laboratories and implementation of any recommended corrective actions.

(5) The technical review of data to verify quality aspects and compliance with the contract statement of work.

(6) The periodic on-site assessments of the contract laboratory.

9-4. Quality control and quality management

a. Established, routine, quality control requirements to ensure the reliability of the final results are to be included in every analytical procedure. These requirements are found in the certification and/or accreditation program mentioned above.

b. All preventive medicine organizations providing laboratory services are responsible for maintaining a quality management system appropriate to their scope of work (for example, ISO 9001 and ISO/IEC 17025) to ensure the delivery of accurate, reliable results.

9-5. DOD Cholinesterase Monitoring Program

a. Regular testing of blood samples for cholinesterase levels is specified in DA Pam 40-8 to provide medical surveillance of workers with an exposure potential to cholinesterase inhibitors. Performance of this surveillance is described in TB MED 590; this testing is an MTF responsibility. TB MED 590 also specifies procedures for the red blood cell Cholinesterase Monitoring Program (CMP).

b. USACHPPM—

(1) Assumes responsibility for administration of the CMP as DOD agent.

(2) Specifies test methods and procedures to be used by MTFs under the CMP.

(3) Provides training and certifies analysts in the CMP test methods. Training is free for DOD employees. All others must provide reimbursement for training costs.

(4) Approves MTFs as CMP testing sites.

(5) Provides equipment and calibration standards to MTFs approved to perform the test.

(6) Provides quality assurance oversight of MTF laboratories performing the cholinesterase testing to include proficiency testing, confirmatory analysis, and on-site assessments.

(7) Provides technical assistance and backup analysis to MTF laboratories.

(8) Performs cholinesterase testing for Federal employees under job-related medical surveillance who do not have access to testing at their MTF.

(9) Performs cholinesterase testing for non-DOD workers performing activities with cholinesterase-inhibiting compounds under contract to DOD or as part of an international treaty. The contractor or facility submitting the specimens pays for the costs of this testing.

(10) Requires MTFs participating in the CMP to maintain Clinical Laboratory Improvement Amendments/CLIP certification.

(11) Requires that each specimen submitted for analysis under the CMP include the appropriate USACHPPM-assigned account number.

c. MTFs wishing to become CMP testing sites are required to meet all quality system and performance requirements. USACHPPM, as specified in TB MED 590, approves requests.

Chapter 10 Health Risk Assessment

10-1. Introduction

a. Health risk assessment is a process for evaluating the potential for adverse consequences to human life, health, or

the environment resulting from exposures to substances of concern. This process is used to identify hazards; determine exposure pathways and magnitude; consider toxic response; and estimate, qualitatively or quantitatively, negative impacts. Substances of concern may include chemical, biological, or radiological materials.

b. Health risk assessment is also a tool for decision makers and is part of the military ORM process in deployment scenarios.

10-2. Functions

a. Preventive medicine personnel assess health risks to improve and enhance individual and unit medical readiness and to protect and sustain the health of soldiers, beneficiaries, and other populations that may be affected by military activities. Preventive medicine personnel conduct health risk assessment activities to support the commander's ORM decision process. These activities include—

(1) Developing health-related technical information in the areas of OEH and environmental risk assessment and management.

(2) Performing diversified consultative services and assisting commanders in the investigation and evaluation of military and community public health OEH issues.

(3) Conducting environmental health risk assessment and ORM training.

(4) Delivering exposure and health risk assessment support for—

(a) Evaluation of environmental exposures encountered by U.S. forces prior to, during, and following military operations CONUS and OCONUS.

(b) The Army's Environmental Program as required by AR 200-1 and AR 200-2.

(5) Assuring that human and ecological health risk assessments prepared for Army programs and operations are based upon consistent principles and practices and provide scientifically defensible input to decision makers.

(6) Determining human health and safety environmental levels for chemical agents, explosive compounds, and industrial substances when such levels do not exist for military-unique exposures.

(7) Performing public health assessments, consultations, health studies or actions such as disease registries, epidemiological studies, health surveillance programs, or health education programs needed to evaluate, mitigate, or prevent adverse human health effects from hazardous waste sites.

b. Preventive medicine personnel assist in executing the DOD lead agency responsibilities and Army liaison responsibilities for the Agency for Toxic Substances and Disease Registry (ATSDR) (Memorandum of Understanding between DOD and ATSDR).

c. Health risk assessment programs, services, and capabilities provide support in the following areas:

(1) Protection from OEH threats—

(a) During deployment.

(b) During training.

(c) In garrison.

(2) Environmental restoration.

(a) Army IRP.

(b) BRAC.

(c) Formerly Used Defense Sites (FUDS).

(d) Military munitions response.

(3) Training/test range characterization and preservation.

(4) Chemical and conventional ammunition demilitarization.

(5) Facility closure and decommissioning.

(6) Industrial and installation operations.

(7) Materiel and weapons development.

(8) Tool and database development to support uniquely military health risk assessment capabilities and/or to improve precision and efficiency of the assessment process.

10-3. Guidance

a. DA Pam 40-578 provides specific health risk assessment guidance for AMEDD and non-AMEDD elements supporting or executing the Army IRP and the FUDS program.

b. Preventive medicine personnel provide the health risk assessment capabilities in support of the following FHP-OEH deployment-related initiatives:

(1) Based on the threat, studies are conducted at potential deployment sites to establish pre-deployment OEH baseline conditions. These OEH studies should integrate information from IHAs and be coordinated and integrated with conduct of EBSs.

(2) The AFMIC has developed reports that will identify potential industrial operations and the hazards normally associated with those operations. This information is used in conducting pre- and during-deployment environmental health intelligence preparation of the battlefield/IHAs for planned/identified base camps and/or forward operating

bases. Preventive medicine personnel use IHA information and EBS data integrated with the ORM process to identify OEH hazards, assess their risks, determine appropriate countermeasures, and develop effective risk communication techniques for commanders and deployed personnel.

(3) An EBS of the deployed site is conducted as early as possible to meet FHP mandates. Preventive medicine personnel can use the EBS to identify and quantify OEH and safety hazards that pose potential risks to U.S. personnel at U.S. Force locations. The EBS documents OEH hazards for consideration during operational planning as part of the operational FHP program. FM 3-100.4/MCRP 4-11B contains technical guidance for conducting these surveys.

(4) The ORM estimates are made for base camps and forward operating bases according to Army ORM guidance (Joint Publication 5-00.2, Joint Publication 2-01.3). (Technical information to assist preventive medicine personnel in operational health risk assessment can be obtained from USACHPPM at the following Web sites: <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG230.pdf>, <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG230RD.pdf>, and <http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG248.pdf>.)

Chapter 11

Health Risk Communication

11-1. Introduction

a. Health risk communication includes the process of building and maintaining strategic partnerships that are the foundation for information exchange, dialogue, and collaborative problem solving among interested stakeholders about health and safety issues.

b. Health risk communication is also the interactive exchange of information and/or opinions among soldiers, civilians, and community groups to—

- (1) Build strategic partnerships before the threat occurs.
- (2) Plan carefully and evaluate all efforts.
- (3) Deliver consultation to senior leadership.
- (4) Coordinate and collaborate with other credible sources.
- (5) Respond to emergency and crisis situations.
- (6) Meet the needs of the media.

c. The Army approach to health risk communication involves using generally accepted concepts and techniques to—

- (1) Identify and analyze Army personnel health concerns and issues.
- (2) Develop and implement proactive strategies.
- (3) Comply with HAZCOM requirements as mandated by the Comprehensive Environmental Response, Compensation, and Liability Act.

11-2. Functions

a. The MEDCOM assists subordinate medical commanders in establishing health risk communication capabilities through planning, resourcing, oversight, and advocacy.

b. The USACHPPM provides health risk communication consultative support, training, health information products, and health risk communication methods and tools. This support is available to commanders, public affairs staffs, technical personnel, medical personnel, installation advisory boards, and environmental specialists.

c. Commanders can have several health risk communication functions, such as—

- (1) Integration of health risk information into the planning for, and management of, operational risks.
- (2) Coordination with medical personnel to communicate health risks and preventive medicine countermeasures to military personnel.

(3) Coordination with medical and public affairs personnel to communicate health risks as a result of military activities to the general public.

d. All preventive medicine personnel should receive training in the principles of health risk communication that goes beyond the introductory or basic risk communication training. They should be proficient in developing and applying effective health risk communication strategies, processes, and techniques to convey technical or scientific information to a nontechnical, anxious or concerned audience. They should routinely incorporate health risk communication principles into the delivery of their preventive medicine products and services.

e. All medical personnel should receive introductory training in the principles of health risk communication. They should be able to apply that training in recognizing when health risk communication is needed; in using good risk communication techniques; and in knowing when and how to obtain advice and assistance.

11-3. Guidance

a. Basic health risk communication should be provided to medical commanders, leaders, and health care providers. Introductory and intermediate training workshops, as well as specialized workshops for individual installations with

specific risk communication issues, are available through USACHPPM. A schedule of planned risk communication workshops may be viewed at <http://chppm-www.apgea.army.mil/risk>. Continuing education credits for attending these risk communication workshops may be available for selected AMEDD specialties.

- b. The effectiveness of health risk communication will rely on the communicator's ability to—
 - (1) Understand the basics of risk analysis and risk management.
 - (2) Identify key stakeholders.
 - (3) Build risk communication programs that establish effective strategic partnerships.
 - (4) Understand the perceptions inherent and integral to the issues of risk.
 - (5) Listen to stakeholders to comprehensively identify and analyze interests, concerns, and perceptions.
 - (6) Plan properly, and integrate proactive risk communication activities into technical timelines.
 - (7) Demonstrate skills in risk and conflict management, strategic planning, facilitation, mediation, dispute resolution, and negotiation.
- c. The following are fundamental characteristics of effective health risk communication:
 - (1) The communication should address the identified interests and concerns of the stakeholder.
 - (2) The communication should be clear, understandable, informative, accurate, and concrete.
 - (3) The communication should be coordinated within one's own organization.
 - (4) The source of the communication should be seen as credible and reliable by the stakeholders.
 - (5) Whenever possible, the stakeholders should be closely involved in planning and implementing the program.
 - (6) Face-to-face, two-way communication is most effective.
 - (7) The message should be relevant to the situation and audience.
- d. The types of audience determine the information content and approach.
 - (1) *Communicating health risks to commanders and their staff.* Commanders are interested in managing operational risks. They require information essential to making operational risk management decisions. They are also accountable for the health of their command. Prior to presenting hazards and risks to the commander, preventive medicine personnel must thoroughly understand the circumstances, conditions, and impact to the mission and the tactical situation. Extensive coordination with other staff sections is required in order to validate facts and to recommend solutions. Potential hazards are identified, assessed, and ranked using the Risk Assessment Matrix, figure 2–4 in FM 100–14. Those health risks having the greatest potential impact on operations are presented to the commander. Less significant health risks are presented when required by the commander.
 - (2) *Communicating health risks to military personnel.* During the initial stages of deployment, military personnel are inundated with enormous amounts of information such as changing requirements, changing threat conditions, and changing timelines. In addition, military personnel will be preoccupied with both professional and personal issues such as separation from family and financial obligations. These worries may distract military personnel from health risk messages and might prevent them from giving their full attention to their mission and duties. Commanders and medical personnel must identify and use forums and formats that will most effectively provide soldiers with the health risk and countermeasure information they need to protect themselves.
 - (3) *Communicating health risks to the general public.* The public includes many diverse groups. How health risks are communicated to each group will vary greatly. Medical personnel should involve the general public as a partner in communication efforts, and gather information about the interests, concerns, and involvement needs of various stakeholders. The communication strategy should include techniques and messages consistent with the interests and concerns identified in the information-gathering phase of planning.
- e. Table 11–1 provides some detailed information on the health risk communication process.

Table 11–1
Risk communication guidelines

Guideline	Explanation
Know the stakeholders.	Identifying both external and internal stakeholders and finding out their diverse and sometimes competing interests and concerns is the first step to any successful risk communication effort. The best way to determine stakeholder interests and concerns is to ask them! Conduct interviews with key leaders both outside and inside your organization. Use the information gathered in this step to develop your risk communication program for establishing collaborative problem solving and communication efforts.
Simplify language and presentation, not content.	When trying to communicate the complex issues behind a health risk, it is easy to leave out information that seems to be overly technical. Risk communication research and studies have proven that all audience members can understand any technical subject if it is presented properly. This can be done, for example, through the use of visuals and diagrams and by defining all technical/medical/scientific jargon and acronyms.

Table 11-1
Risk communication guidelines—Continued

Be objective, not subjective.	It is often very easy to differentiate between opinions and facts. It can be difficult, however, to respond credibly to opinions without substantiating them or offending the individual asking the question. In order to maintain credibility, respond to both opinions and facts in the same manner.
Communicate clearly and honestly.	To communicate clearly, present information at the audience's level of understanding. People can reject information that is too difficult for them or they can reject a communicator who is perceived to be dishonest or untrustworthy. As a result, they may refuse to acknowledge the information or become hostile. On the other hand, they may become hostile if they feel patronized. The bottom line is—know the audience! In addition, whenever possible, provide familiar examples and concrete information that can help put the risk in perspective.
Deal with uncertainty.	When communicating health risks, results are not definitive. Discuss sources of uncertainty, such as how the data were gathered, how they were analyzed, and how the results were interpreted. This demonstrates that the uncertainties are recognized, which can lead to an increase in trust and credibility. However, when discussing uncertainty, the communicator should stress his/her expertise and knowledge of the subject. This will reinforce the leadership's ability to handle the situation and could allay concerns and fears regarding the risk and the risk-management decision.
Be cautious when using risk comparisons.	In order to put risks in perspective, comparing an unfamiliar risk to a familiar one can be helpful. However, some types of comparisons can alienate audience members. Avoid comparing unrelated risks, such as the risks associated with smoking versus those associated with air contamination. People rarely accept the comparison of unrelated risks.
Develop key messages.	Key messages are those items of importance, the health risk information that needs to be communicated. They must be clear, concise, and to-the-point. No more than three messages should be communicated at one time. Repeat key messages as often as possible to ensure they are not misunderstood or misinterpreted.
Be prepared.	When either presenting health risk information or answering questions regarding an individual's concerns, be prepared. Most questions and concerns can be anticipated if the audience is known. In fact, the communicator should know 70 percent of the possible questions that could be asked. Consider how to answer general questions and how to respond to specific inquiries.

Appendix A References

Section I

Required Publications

Except as noted below, Army regulations and DA pamphlets are available online from the U.S. Army Publishing Directorate (APD) Web site: <http://www.apd.army.mil>. Field manuals are available online from the General Dennis J. Reimer Training and Doctrine Digital Library Web site: <http://atiam.train.army.mil/portal/application> (Library Search). DHHS (NIOSH) publications are available at <http://www.cdc.gov/niosh/pubs.html>; or call 1-800-35-NIOSH. Technical bulletins, medical are available online from the USACHPPM Web site: <http://chppm-www.apgea.army.mil> (also available by contacting USACHPPM, ATTN: MCHB-CS-IPD, 5158 Blackhawk Road, Aberdeen Proving Ground, MD 21010-5403). DOD directives, instructions, and manuals are available online from the Washington Headquarters Services Web site: <http://www.dtic.mil/whs/directives>. Codes of Federal Regulations are available online from the National Archives and Records Administration at: <http://www.gpoaccess.gov/cfr/index.html>. Military handbooks and standards are available online from the following Web site: <http://assist.daps.dla.mil>. Armed Forces Pest Management Board (AFPMB) documents are available online from the AFPMB Web site: <http://www.afpmb.org/pubs/tims/tims.htm> (also available by contacting the AFPMB, 6900 Georgia Avenue, NW, Washington, DC 20307-5001).

AFPMB Military Pest Management Handbook

(Available at <http://www.afpmb.org/mpmh/toc.htm>.) (Cited in para 3-4d(1).)

AFPMB TG 14

Personal Protective Equipment for Pest Management Personnel. (Cited in paras 4-7e(2) and 4-7e(3).)

AFPMB TG 15

Pesticide Spill Prevention and Management. (Cited in para 4-7i(5)(c).)

AFPMB TG 17

Military Handbook-Design of Pest Management Facilities. (Cited in para 4-7b(1)(f)3.)

AFPMB TG 20

Pest Management Operations in Medical Treatment Facilities. (Cited in para 4-7q(2)(a).)

AFPMB TG 24

Contingency Pest Management Guide. (Cited in para 3-4d(1).)

AFPMB TG 31

Contingency Retrograde Washdowns: Cleaning and Inspection Procedures. (Cited in para 4-7o.)

AFPMB TG 36

Personal Protective Measures Against Insects and Other Arthropods of Military Significance. (Cited in paras 3-4d(2), 3-5c(1), and 4-7d(3).)

AFPMB TG 41

Protection from Rodent-Borne Diseases. (Cited in para 4-7e(7).)

AFPMB TG 42

Self-Help Pest Management. (Cited in para 4-7k(1).)

AR 11-9

The Army Radiation Safety Program. (Cited in paras 3-4g(2)(a), 4-12a, 4-12b(2), 5-1g, 5-2b(12), 5-2d(1), 5-2d(4), 5-2d(5), 5-3a, 5-5c, 5-11a(1), 5-11a(2), 5-11b(1), 5-11b(3)(a), 5-11c, 5-11d, 5-11d(2), 5-11d(2)(b), 5-11d(3), 5-11d(3)(d), 5-11d(3)(e), 5-11d(4), 5-11d(5)(a), 5-11e(1), 5-11f(1)(b), 5-11g(1), 5-19b, 5-26a(8), G-1a(3), G-1a(5), G-1b(1), G-1c(5), G-1c(13), G-1d(1)(a), G-1d(3)(b), G-2a(2), and G-3a.)

AR 11-34

The Army Respiratory Protection Program. (Cited in paras 4-7f(2), 5-2b(5), and 5-14.)

AR 25-400-2

The Army Records Information Management System (ARIMS). (Cited in paras 5-19b(1)(a), 5-19b(1)(d)3, 5-19b(4)(a), G-1b(3), G-2a(3), and G-2a(5).)

AR 40-3

Medical, Dental, and Veterinary Care. (Cited in paras 5-24a(2) and 5-24b(3).)

AR 40-5

Preventive Medicine. (Cited in paras 1-1b, 1-4c(4), 1-5b, 2-1, 2-2, 2-14b, 2-17a, 3-2b(1)(b)1, 5-2b, 5-3c, and 8-1c(1).)

AR 40-10

Health Hazard Assessment Program in Support of the Army Materiel Acquisition Decision Process. (Cited in paras 5-25a, 5-25b, 8-1c(5), and G-1a(1).)

AR 40-12/SECNAVINST 6210.2A/AFR 161-4

Quarantine Regulations of the Armed Forces. (Cited in paras 4-7j and 4-7o.)

AR 40-25/BUMEDINST 10110.6/AFI 44-141

Nutrition Standards and Education. (Cited in para 7-20a.)

AR 40-66

Medical Record Administration and Health Care Documentation. (Cited in paras 2-9e(7), 2-19b, 5-11d(1), 5-19a, 5-19b(1)(a), 5-19b(2)(a), and 5-19b(4)(c).)

AR 40-68

Clinical Quality Management. (Cited in paras 2-18e(12), 5-19a, and 7-2f(6).)

AR 40-216

Neuropsychiatry and Mental Health. (Cited in para 7-2g(2).)

AR 40-400

Patient Administration. (Cited in paras 5-16b(2)(b) and E-2b.)

AR 40-407

Nursing Records and Reports. (Cited in para 7-9a.)

AR 40-501

Standards of Medical Fitness. (Cited in paras 2-7i, 4-16e, 5-2c(6), 5-3c(1), 5-5c, 5-24a(2), 5-24b(3), and 6-4d.)

AR 40-562/AFJI 48-110/BUMEDINST 6230.15/CG COMDTINST M6230.4E

Immunizations and Chemoprophylaxis. (Cited in paras 2-1, 2-2b(3), 2-3a, 2-3b, 2-4a(2)(c), 2-4b(2)(a), 2-5c(1), 2-6b, 2-7a(1), 2-7a(2), 2-7a(3), 2-9b(2), 5-3c(4), 5-18a, and 6-3a(2)(a)2.)

AR 40-657/NAVSUPINST 4355.4F/MCO P10110.31G

Veterinary/Medical Food Inspection and Laboratory Service. (Cited in paras 3-6c(2) and 4-5a.)

AR 40-905/SECNAVINST 6401.1A/ARI 48-131

Veterinary Health Services. (Cited in paras 2-9c(1) and 2-9d(1).)

AR 50-5

Nuclear Surety. (Cited in para 5-4a.)

AR 50-6

Chemical Surety. (Cited in para 5-4a.)

AR 70-1

Army Acquisition Policy. (Cited in paras 8-1c(1), 8-1c(1)(a), and G-1a(1).)

AR 95-1

Flight Regulations. (Cited in para 4-15b.)

AR 190-47

The Army Corrections System. (Cited in para 4-17c(8).)

AR 200-1

Environmental Protection and Enhancement. (Cited in paras 3-4g(1)(a), 3-4g(5), 4-1b, 4-3b(1), 4-14c(5), 4-15b, 5-15a(3), 7-14a(1), and 10-2a(4)(b).)

AR 200-2

Environmental Effects of Army Actions. (Cited in paras 10-2a(4)(b) and G-1c(14).)

AR 200-5

Pest Management. (Cited in paras 4-7a, 4-7b(1), 4-7c(3), 4-7i(1), 4-7i(4), and 4-7n(1).)

AR 210-20

Master Planning for Army Installations. (Cited in para 4-15b.)

AR 210-21

Army Ranges and Training Land Program. (Cited in para 4-15b.)

AR 210-50

Housing Management. (Cited in paras 4-17c(7)(a) and D-1a(1).)

AR 385-10

The Army Safety Program. (Cited in paras 4-7e(2), 5-9b, 5-20b, 5-21b, 5-26a(1), 5-28b, 6-14c(3), G-1a(1), and G-2a(1).)

AR 385-40

Accident Reporting and Records. (Cited in paras 5-17d, 5-26a(2), G-1c(5), and G-1d(2)(d).)

AR 385-61

The Army Chemical Agent Safety Program. (Cited in para 5-4a.)

AR 385-69

Biological Defense Safety Program. (Cited in para 5-4a.)

AR 420-49

Utility Services. (Cited in paras 4-3b(1), 4-3b(2), 4-3c(1), 4-3d, 4-3n(5), and 4-4a.)

AR 420-70

Buildings and Structures. (Cited in paras 4-7k(1), 5-15a(3), and 7-14a(1).)

AR 420-90

Fire and Emergency Services. (Cited in para 5-26a(4).)

AR 525-13

Antiterrorism. (Cited in para 4-3n(13).)

AR 600-8-101

Personnel Processing (In-, Out-, Soldier Readiness, Mobilization, and Deployment Processing). (Cited in para 7-4a.)

AR 600-20

Army Command Policy. (Cited in para 2-2b(3).)

AR 600-63

Army Health Promotion. (Cited in paras 7-1b, 7-2c(1), 7-2g(2), 7-19a, 7-20a, 7-23a, and 7-24.)

AR 600–85

Army Substance Abuse Program (ASAP). (Cited in paras 5–27d and 7–22.)

AR 600–110

Identification, Surveillance, and Administration of Personnel Infected with Human Immunodeficiency Virus (HIV). (Cited in para 2–8i.)

AR 608–10

Child Development Services. (Cited in paras 4–17c(5)(a), 4–17c(5)(b), 7–2f(8), 7–12a, and 7–12c(1).)

AR 608–18

The Army Family Advocacy Program. (Cited in paras 7–15a, 7–15c, and 7–25c.)

AR 700–136

Tactical Land Based Water Resources Management in Contingency Operations. (Cited in para 4–3e.)

Clean Air Act Amendments of 1990, Section 112(r)

(Cited in paras 4–14b(4) and 4–14c(3).) (Available at <http://www.epa.gov/oar/caa/caa112.txt>.)

DA Pam 40–8

Occupational Health Guidelines for the Evaluation and Control of Occupational Exposure to Nerve Agents GA, GB, GD, and VX. (Cited in paras 5–2c(8), 5–2d(6), 5–4d and 9–5a.)

DA Pam 40–18/DLAI 1000.30

Personnel Dosimetry Guidance and Dose Recording Procedures for Personnel Occupationally Exposed to Ionizing Radiation. (Cited in paras 5–3c(2), 5–11a(2), 5–11d, 5–11d(4), and 5–19b(3)(b).)

DA Pam 40–21

Ergonomics Program. (Cited in para 5–10b.)

DA Pam 40–173

Occupational Health Guidelines for the Evaluation and Control of Occupational Exposure to Mustard Agents H, HD, and HT. (Cited in paras 5–2c(8), 5–2d(6), and 5–4d.)

DA Pam 40–501

Hearing Conservation Program. (Cited in paras 3–5g, 5–2b(6), 5–2d(2), 5–3b, 5–7a, and 5–26a(7).)

DA Pam 40–503

Industrial Hygiene Program. (Cited in paras 5–2d(2), 5–12, 5–20b, 5–26a(7), and 9–2c(5).)

DA Pam 40–506

The Army Vision Conservation and Readiness Program. (Cited in paras 5–2b(7), 5–2d(2), and 5–8.)

DA Pam 40–578

Health Risk Assessment Guidance for the Installation Restoration Program and Formerly Used Defense Sites. (Cited in para 10–3a.)

DA Pam 50–6

Chemical Accident or Incident Response and Assistance (CAIRA) Operations. (Cited in para 5–4d.)

DA Pam 70–3

Army Acquisition Procedures. (Cited in para 8–1c(1).)

DA Pam 200–1

Environmental Protection and Enhancement. (Cited in para 4–14c(5).)

DA Pam 385–69

Biological Defense Safety Program. (Cited in para 5–18b.)

DA Pam 600–24

Suicide Prevention and Psychological Autopsy. (Cited in para 7–23a.)

DA Pam 600–70

U.S. Army Guide to the Prevention of Suicide and Self-Destructive Behavior. (Cited in para 7–23a.)

DA Pam 600–85

Army Substance Abuse Program Civilian Services. (Cited in paras 5–27d and 7–22.)

DA Pam 690–47

DA Civilian Employee Deployment Guide. (Cited in paras 6–4a(1), 6–4a(5), 6–4f(2), 6–4h(1), 6–4h(2), and 6–4h(6).)

DHHS (NIOSH) Publication 75–137

Development and Evaluation of Methods for the Elimination of Waste Anesthetic Gases and Vapors in Hospitals. (Cited in para 5–26a(7).)

DHHS (NIOSH) Publication 77–140

Criteria for a Recommended Standard: Occupational Exposure to Waste Anesthetic Gases and Vapors. (Cited in para 5–26a(7).)

DHHS (NIOSH) Publication 77–200

Special Occupational Hazard Review with Control Recommendations: Use of Ethylene Oxide as a Sterilant in Medical Facilities. (Cited in para 5–26a(7).)

DODD 6490.2

Comprehensive Health Surveillance. (Cited in paras 6–1e and 6–10b.)

DODI 6055.1

DOD Safety and Occupational Health (SOH) Program. (Cited in paras 5–20b and 6–1e.)

DODI 6490.3

Implementation and Application of Joint Medical Surveillance for Deployments. (Cited in paras 6–1e and 6–10b.)

FM 3–100.4/MCRP 4–11B

Environmental Considerations in Military Operations. (Cited in para 10–3b(3).)

FM 4–02.17

Preventive Medicine Services. (Cited in paras 3–1c, 3–3a, 3–3b, 4–7i(4), and 4–7p(2)(e).)

FM 4–02.33

Control of Communicable Diseases Manual. (Cited in paras 2–1 and 6–13a.) (Available from the American Public Health Association, 800 I Street, NW, Washington, DC 20001–3710; and at <http://apha.org/media/science.htm>.)

FM 4–02.56

Army Medical Field Feeding Operations. (Cited in para 4–17c(9)(b).)

FM 4–25.12

Unit Field Sanitation Team. (Cited in paras 3–3a, 3–3b, 3–3c, 3–4c(2), 3–4h(8)(a), 3–5l, 4–7i(1), and 4–7p(2)(e).)

FM 5–104

General Engineering. (Cited in para 3–4g(2)(b).)

FM 5–116

Engineer Operations: Echelons Above Corps. (Cited in para 3–4g(2)(b).)

FM 8–50

Prevention and Medical Management of Laser Injuries. (Cited in para G–1d(2)(a).)

FM 8–51

Combat Stress Control in a Theater of Operations Tactics, Techniques, and Procedures. (Cited in para 3–4f(1).)

FM 8-55

Planning for Health Service Support. (Cited in paras 3-1c, 3-3b, 3-4c(2), 4-16c, and 4-16d.)

FM 10-52

Water Supply in Theaters of Operations. (Cited in paras 3-4a(2), 3-4a(2)(c) and 4-3e.)

FM 10-52-1

Water Supply Point Equipment and Operations. (Cited in paras 3-4a(2) and 3-4a(2)(b).)

FM 21-10/MCRP 4-11.1D

Field Hygiene and Sanitation. (Cited in paras 3-2b(1)(b)1, 3-3a, 3-3c, 3-4c(2), 3-4g(2)(a), 3-5b, 3-5l, 4-3e, 4-7d(3), 4-16c, 4-16d, 4-17c(9)(b), and E-13c.)

FM 22-51

Leader's Manual for Combat Stress Control. (Cited in para 3-4f(1).)

FM 42-414

Tactics Techniques and Procedures for Quartermaster Field Service Company Direct Support. (Cited in para 4-17(c)(7)(b).)

FM 100-14

Risk Management. (Cited in paras 3-4a(2)(a)1 and 11-3d(1).)

JCAHO

Comprehensive Accreditation Manual for Hospitals (CAMH). (Cited in paras 5-26a(3), (4), (5) and (6).) (Available at <http://www.jcaho.org>.)

MIL-HDBK-828A

Laser Safety in Ranges and in Other Outdoors Areas. (Cited in para 5-11a(3).)

MIL-HDBK-1008C

Fire Protection for Facilities Engineering, Design, and Construction. (Cited in para 5-26a(4).)

MIL-HDBK-1191

Department of Defense Medical and Dental Treatment Facilities Design and Construction Criteria. (Cited in para 5-26a(4).)

MIL-STD-3006A

Sanitation Requirements for Food Establishments. (Cited in para 4-5b.)

NRC Regulatory Guide 8.13

Instruction Concerning Prenatal Radiation Exposure. (Cited in para 5-3c(2).) (Available at <http://www.nrc.gov/reading-rm/doc-collections/reg-guides/occupational-health/active/8-13/>.)

STP 21-1-SMCT

Soldier's Manual of Common Tasks Skill Level 1. (Cited in para 4-7d(3).) (Available at <http://www.train.army.mil>.)

TB 385-4

Safety Requirements for Maintenance of Electrical and Electronic Equipment. (Cited in para G-1d(1)(a).) (Available at <http://www.monmouth.army.mil/cecom/safety/spub/tb3854.htm>; or from the U.S. Army Communications-Electronics Command Directorate for Safety, ATTN: AMSEL-SF, Bldg 2539 Laboratory Road, Charles Wood Area, Fort Monmouth, NJ 07703-5024.)

TB MED 2

Sterilizing Medical, Surgical, Dental, and Veterinary Materiel. (Cited in para 5-26a(6).)

TB MED 266

Disinfection and Sterilization of Dental Instruments and Materials. (Cited in para 5-26a(7).)

TB MED 288

Medical Problems of Man at High Terrestrial Elevations. (Cited in paras 3-4c(1) and 4-16e.)

TB MED 502/DLAM 1000.2

Respiratory Protection Program. (Cited in paras 4-7e(2), 4-7f(2), 5-2d(2), 5-26a(7), and G-2a(3).)

TB MED 507/AFPAM 48-152 (I)

Heat Stress Control and Heat Casualty Management. (Cited in paras 3-4c(1), 4-16b(1)(b), and 4-16c.)

TB MED 508

Prevention and Management of Cold-Weather Injuries. (Cited in paras 3-4c(1), 4-16b(1)(b), and 4-16d.)

TB MED 509

Spirometry in Occupational Health Surveillance. (Cited in paras 5-2b(8) and 5-2d(2).)

TB MED 510

Guidelines for the Recognition, Evaluation, and Control of Occupational Exposure to Waste Anesthetic Gases. (Cited in paras 5-2b(9), 5-5c and 5-26a(7).)

TB MED 513

Guidelines for the Evaluation and Control of Asbestos Exposure. (Cited in para 5-15a(3).)

TB MED 521

Management and Control of Diagnostic, Therapeutic, and Medical Research X-ray Systems and Facilities. (Cited in paras 5-11a(2), 5-26a(8), G-1a(3), G-1c(7), G-1c(8), and G-4a.)

TB MED 523

Control of Hazards to Health from Microwave and Radio Frequency Radiation and Ultrasound. (Cited in paras 5-2b(10), 5-11a(3), 5-11g(1), 5-26a(8), G-1a(3) and G-1d(1)(a).)

TB MED 524

Control of Hazards to Health from Laser Radiation. (Cited in paras 5-2b(11), 5-2d(5), 5-11a(3), 5-11g(1), 5-26a(8), G-1a(3), G-1d(1)(a), and G-2b.)

TB MED 525

Control of Hazards to Health from Ionizing Radiation Used by the Army Medical Department. (Cited in para 5-26a(8).)

TB MED 530

Food Sanitation. (Cited in paras 3-4b, 4-5d, 4-7q(1)(a), 4-17b(1)(a), 4-17b(1)(c), 4-17c(5)(b), 4-17c(9)(a), 4-17c(9)(b), 4-17c(9)(c), 5-26a(6), 6-15e, 7-12c(1), D-3f, E-11, and E-14a.)

TB MED 561

Pest Surveillance. (Cited in paras 3-4d(1) and 4-7c(1).)

TB MED 575

Swimming Pools and Bathing Facilities. (Cited in paras 4-4a, 4-4c(2), 4-4c(4), 4-4c(5), and 9-2c(4).)

TB MED 576

Sanitary Control and Surveillance of Water Supplies at Fixed Installations. (Cited in paras 4-3b(3), 4-3c(2), 4-3d, 4-3g, 4-3n(7), 4-3n(8), 9-2c(4), and F-7b.)

TB MED 577

Sanitary Control and Surveillance of Field Water Supplies. (Cited in paras 3-4a(2), 3-4a(2)(a), 3-4a(2)(a)1, 3-6c(1), 3-6c(3), and 4-3e.)

TB MED 590

Red Blood Cell-Cholinesterase Testing and Quality Assurance. (Cited in paras 9-5a and 9-5c.)

TM 5-662

Swimming Pool Operations and Maintenance. (Cited in paras 4-4a and 4-4c(2).) (Available at <http://www.usace.army.mil/usace-docs/armytm>.)

TM 5-803-12

Planning of Outdoor Recreation Areas. (Cited in para 4-17c(6)(b).) (Available at <http://www.usace.army.mil/usace-docs/armytm>.)

TRADOC Regulation 350-29

Prevention of Heat and Cold Casualties. (Cited in paras 4-16c and 4-16d.) (Available at <http://www.tradoc.army.mil/tpubs/regs/r350-29/r350-29.htm>.)

International Association of Plumbing and Mechanical Officials

Uniform Plumbing CodeTM. (Cited in paras 4-3g, 4-5b(1), D-1b, F-5, and F-8d.) (Available at <http://www.iapmo.org/iapmo/publications.html>; or from the International Association of Plumbing and Mechanical Officials, 5001 E. Philadelphia Street, Ontario, CA 91761, telephone 1-800-85-IAPMO.)

Advisory Committee on Immunization Practices (ACIP)

U.S. Preventive Services Task Force (USPSTF). (Cited in para 2-9b(2).) (Available at <http://www.ahcpr.gov/clinic/cps3dix.htm>.)

5 CFR 339

Medical Qualification Determinations. (Cited in paras 5-2b(1) and 5-2c(8).)

5 CFR 930.108

Periodic medical evaluation. (Cited in para 5-2b(2).)

10 CFR

Energy. (Cited in para 5-1g.)

10 CFR 19

Notices, Instructions and Reports to Workers: Inspection and Investigations. (Cited in paras 5-3a, 5-3a(5), 5-3c, 5-19b(3)(a), 5-19b(3)(a)4, 5-26a(8), and G-1b(1).)

10 CFR 20

Standards for Protection Against Radiation. (Cited in paras 4-12a, 5-2d(4), 5-26a(8), G-1a(3), G-1b(1), G-1c(5), G-1c(12), G-2a(1), and G-2a(2).)

10 CFR 21

Reporting of Defects and Noncompliance. (Cited in para 5-26a(8).)

10 CFR 30

Rules of General Applicability to Domestic Licensing of Byproduct Material. (Cited in para 5-26a(8).)

10 CFR 35

Medical Use of Byproduct Material. (Cited in paras 5-11b(2), 5-26a(8) and G-1b(1).)

21 CFR

Food and Drugs. (Cited in para 5-1g.)

21 CFR 129

Processing and Bottling of Bottled Drinking Water. (Cited in para 3-6c(1).)

21 CFR 165.110

Bottled water. (Cited in para 3-6c(1).)

29 CFR 1910

Occupational Safety and Health Standards. (Cited in paras 4-7e(1), 5-2b(4), 5-3a(5), 5-3c(2), 5-3c(7), 5-5c, 5-8, 5-19b(3)(a), 5-19b(3)(a)4, 5-26a(3), 5-26a(4), 5-26a(5), and 5-26a(7).)

29 CFR 1910.95

Occupational noise exposure. (Cited in para 5–3b.)

29 CFR 1910.134

Respiratory protection. (Cited in para 4–7f(2).)

29 CFR 1910.1000

Air contaminants. (Cited in para 5–2d(1)(a).)

29 CFR 1910.1001

Asbestos. (Cited in para 5–15a(2).)

29 CFR 1910.1025

Lead. (Cited in para 5–3c(3).)

29 CFR 1910.1030

Bloodborne pathogens. (Cited in paras 2–7b, 2–8i, 5–3a, 5–3c(5) and 5–6a.)

29 CFR 1910.1047

Ethylene oxide. (Cited in para 5–3c(6).)

29 CFR 1910.1200

Hazard communication. (Cited in paras 4–7h, 5–3a, 5–3c and 5–3c(8).)

29 CFR 1926.1101

Asbestos. (Cited in para 5–15a(2).)

29 CFR 1960

Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters. (Cited in para 5–19a.)

29 CFR 1960.66

Purpose, scope and general provisions. (Cited in para 5–19a.)

29 CFR 1960.67

Log of occupational injuries and illnesses. (Cited in para 5–19a.)

29 CFR 1960.68

Supplementary record of occupational injuries and illnesses. (Cited in para 5–19a.)

29 CFR 1960.69

Annual summaries of Federal occupational injuries and illnesses. (Cited in para 5–19a.)

29 CFR 1960.70

Reporting of serious accidents. (Cited in para 5–19a.)

29 CFR 1960.71

Location and utilization of records and reports. (Cited in para 5–19a.)

29 CFR 1960.72

Access to records by Secretary. (Cited in para 5–19a.)

29 CFR 1960.73

Retention of records. (Cited in para 5–19a.)

29 CFR 1960.74

Agency annual reports. (Cited in para 5–19a.)

29 CFR 1960.79

Self-evaluations of occupational safety and health programs. (Cited in para 5–7b.)

40 CFR 122

EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. (Cited in para 4–6a(3).)

40 CFR 141

National Primary Drinking Water Regulations. (Cited in paras 4–3b, 4–3b(1), and 4–3f.)

40 CFR 141.63

Maximum contaminant levels (MCLs) for microbiological contaminants. (Cited in para 3–6c(1).)

40 CFR 143

National Secondary Drinking Water Regulations. (Cited in para 4–3b.)

49 CFR

Transportation. (Cited in paras 5–1g and G–1c(12).)

49 CFR 172

Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements. (Cited in para 5–3a(5).)

42 USC section 300f et seq. (1996)

The Safe Drinking Water Act as amended. (Cited in paras 4–3b and 4–3k.) (Available at <http://www.epa.gov/safewater/sdwa/index.html>.)

42 USC 4321 d

The National Environmental Policy Act of 1969, as amended. (Cited in paras 4–3i and 4–15c(3).) (Available at <http://ceq.eh.doe.gov/nepa/regs/nepa/nepaeqia/htm>.)

Section II**Related Publications**

A related publication is a source of additional information. The user does not have to read it to understand this publication. American National Standards Institute (ANSI) standards are available online from the following Web site: <http://www.ansi.org>. National Fire Protection Association standards are available online from the following Web site: <http://www.nfpa.org/Codes/index.asp>; or from National Fire Protection Association, 11 Tracy Drive, Avon, MA 02322. DOD directives, instructions, and manuals are available online from the Washington Headquarters Services Web site: <http://www.dtic.mil/whs/directives>. USACHPPM technical guides are available online from the following Web site: <http://chppm-www.apgea.army.mil/documents/TG.htm>; or from USACHPPM, ATTN: MCHB–CS–IPD, 5158 Blackhawk Road, Aberdeen Proving Ground, MD 21010–5403.

ANSI B11.21

Machine Tools – Machine Tools Using Lasers for Processing Materials – Safety Requirements for Design, Construction, Care, and Use.

ANSI Z87.1–1989 (R 1998)

Practice for Occupational and Educational Eye and Face Protection.

ANSI Z136.1–2000

Safe Use of Lasers.

ANSI Z136.2–1997

Safe Use of Optical Fiber Communication Systems Utilizing Laser Diode and LED Sources.

ANSI Z136.3–1996

Safe Use of Lasers in Health Care Facilities.

ANSI Z136.6–2000

Safe Use of Lasers in an Outdoor Environment.

AR 1–1

Planning, Programming, Budgeting, and Execution System.

AR 602-2

Manpower and Personnel Integration (MANPRINT) in the System Acquisition Process.

AR 690-700

Personnel Relations and Services (General).

Dealing with Workplace Violence, a Guide for Agency Planners

(Available at <http://www.opm.gov/ehs/workplac/workplace-violence-print-version.htm>.)

Defense Acquisition Deskbook

(Available at <http://deskbook.dau.mil>.)

DFAS-IN Manual 37-100-FY

The Army Management Structure. (Available at <http://www.asafm.army.mil/secretariat/document/dfas37-100/dfas37-100.asp>.)

DOD Clinical Laboratory Improvement Program

(Available at <http://www.afip.org/OCLAB/ljwg.html>.)

DOD 1400.25-M

Department of Defense Civilian Personnel Manual (CPM). (Available at <http://www.cpms.osd.mil/cpm/cpm.html>.)

DOD 4150.7-P

DOD Plan for the Certification of Pesticide Applicators.

DOD 4500.9-R

Defense Transportation Regulation (DTR) Part V, Department of Defense Customs and Border Clearance Policies and Procedures.

DOD 4715.5-G

Overseas Environmental Baseline Guidance Document.

DOD 6055.5-M

Occupational Medical Surveillance Manual.

DODD 1010.10

Health Promotion and Disease/Injury Prevention.

DODI 1400.32

DOD Civilian Work Force Contingency and Emergency Planning Guidelines and Procedures.

DODI 3020.37

Continuation of Essential DOD Contractor Services During Crises.

DODI 4150.7

DOD Pest Management Program.

DODI 4715.5

Management of Environmental Compliance at Overseas Installations.

DODI 4715.7

Environmental Restoration Program.

DODI 6055.11

Protection of DOD Personnel from Exposure to Radiofrequency Radiation and Military Exempt Lasers.

DOD Insect Repellent System

(Available at <http://www.hooah4health.com/environment/insectrepellent.htm>.)

DOD Memorandum

Deputy Under Secretary of Defense (Acquisition and Technology), 1 February 1999, subject: Approval for Local Purchase of Pesticides During Deployment Operations. (Available at http://www.afpmb.org/coweb/guidance_policy.htm.)

DOD Population Health Improvement Plan and Guide

(Available at http://www.tricare.osd.mil/mhsophsc/DoD_PHI_Plan_Guide.pdf.)

DOD Standard Pesticides and Pest Control Equipment Lists

(Available at <http://www.afpmb.org/standardlist.htm>.)

DOD/Veterans' Affairs Clinical Practice Guidelines

(Available at <http://www.cs.amedd.army.mil/qmo/pguide.htm>.)

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FM 34-54

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Memorandum, Office of the Assistant Secretary of Defense for Health Affairs, 23 October 1996, subject: Hepatitis B Immunization Policy for Department of Defense Medical and Dental Personnel. (Available at <http://www.ha.osd.mil/policies/1997/hepb9706.html>.)

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ISO/IEC 17025:1999

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Joint Task Force Planning Guidance and Procedures. (Available at <http://www.dtic.mil/doctrine/jpplanningseriespubs.htm>.)

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Memorandum

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Memorandum

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NFPA 10

Standard for Portable Fire Extinguishers.

NFPA 13

Standard for the Installation of Sprinkler Systems.

NFPA 30

Flammable and Combustible Liquids Code.

NFPA 70

National Electrical Code®. (National Electrical Code® is a registered trademark of the National Fire Protection Association, Quincy, Massachusetts.)

NFPA 72

National Fire Alarm Code®. (National Fire Alarm Code® is a registered trademark of the National Fire Protection Association, Quincy, Massachusetts.)

NFPA 80

Standard for Fire Doors and Fire Windows.

NFPA 82

Standard on Incinerators and Waste and Linen Handling Systems and Equipment.

NFPA 90A

Standard for the Installation of Air-Conditioning and Ventilating Systems.

NFPA 96

Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations.

NFPA 99

Standard for Health Care Facilities.

NFPA 101® (Life Safety Code®)

Code for Safety to Life from Fire in Buildings and Structures. (NFPA 101® and Life Safety Code® are registered trademarks of the National Fire Protection Association, Quincy, Massachusetts.)

NFPA 110

Standard for Emergency and Standby Power Systems.

NFPA 501A

Standard for Fire Safety Criteria for Manufactured Home Installations, Sites, and Communities.

NFPA 1582

Standard on Medical Requirements for Fire Fighters and Information for Fire Department Physicians.

NFPA 5000

NFPA Building Construction and Safety Code™. (Building Construction and Safety Code™ is a registered trademark of the National Fire Protection Association, Quincy, Massachusetts.)

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American Academy of Pediatrics, Policy Statement, Vol. 101, No. 6, June 1998, pp. 1072–1078. (Available at <http://www.aap.org/policy/re9815.html>.)

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Centers for Disease Control and Prevention (Morbidity and Mortality Weekly Report 2002; 51[No. RR–6]). (Available at <http://www.cdc.gov/std/treatment/default.htm>.)

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UFC 3-420-01

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USACHHPM Technical Guide 197

Developing an Integrated Solid Waste Management Plan.

USACHHPM Technical Guide 217

Hazardous Material/Hazardous Waste Management Guidance for Maneuver Brigades During Field and Contingency Operations.

USACHHPM Technical Guide 230

Chemical Exposure Guidelines for Deployed Military Personnel.

USACHHPM Technical Guide 248

Guide to Deployed Preventive Medicine Personnel on Health Risk Management.

USACHHPM Technical Guide 273

Diagnosis and Treatment of Diseases of Tactical Importance to U.S. Central Command.

USARIEM Technical Notes

(Available at <http://www.usariem.army.mil/download.htm>; or from the U.S. Army Research Institute of Environmental Medicine, Building 42, Kansas Street, Natick, MA 01760-5007.)

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Section VI, Medical requirements. (Available at <http://www.opm.gov/qualifications/index.htm>.)

VETCOM Circular 40-1

DOD Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement. (Available at <http://vets.amedd.army.mil/vetcom/directory.htm>.)

42 USC s/s 9601 et seq. (1980)

Comprehensive Environmental Response, Compensation, and Liability Act (Superfund). (Available at <http://www.epa.gov/reg50opa/defs/html/cercla.htm>.)

Section III**Prescribed Forms**

Except where otherwise indicated, the following forms are available as follows: DA Forms are available on the Army Electronic Library (AEL) CD-ROM (EM 0001) and the APD Web site, www.apd.army.mil. DD Forms are available from the OSD Web site, www.dtic.mil. SF Forms are available on the GSA Web site, www.gsa.gov.

DA Form 3897

Tuberculosis Registry. (Prescribed in paras C-4a and C-4b.)

DA Form 5402

Barber/Beauty Shop Inspection. (Prescribed in paras E-8a and E-8b.)

DD Form 2493–1

Asbestos Exposure, Part I–Initial Medical Questionnaire. (Prescribed in para 5–15a.)

DD Form 2493–2

Asbestos Exposure, Part II–Periodic Medical Questionnaire. (Prescribed in para 5–15a.)

Section IV**Referenced Forms****DA Form 3763**

Community Health Nursing–Case Referral.

DA Form 4700

Medical Record–Supplemental Medical Data.

DD Form 877

Request for Medical/Dental Records or Information.

DD Form 1532

Pest Management Report.

DD Form 1532–1

Pest Management Maintenance Record.

DD Form 2341

Report of Animal Bite – Potential Rabies Exposure.

DD Form 2766

Adult Preventive and Chronic Care Flowsheet. (Available through normal forms supply channels.)

DD Form 2795

Pre-Deployment Health Assessment.

DD Form 2796

Post-Deployment Health Assessment.

DHHS Form PHS–731

International Certificate of Vaccination. (Available at <http://www.cdc.gov/travel/icv.htm>.)

DOL CA–1

Federal Employee’s Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation. (Available at <http://www.dol.gov/esa/regs/compliance/owcp/ca-1.pdf>.)

SF 78

United States Civil Service Commission Certificate of Medical Examination.

SF 600

Medical Record–Chronological Record of Medical Care.

Appendix B

Acute Respiratory Disease Surveillance Guidelines

B-1. General

a. The objectives of ARD surveillance include the early identification of emerging epidemics, the prompt recognition of a lapse or failure of current ARD preventive strategies, and the collection and dissemination of timely and accurate installation-specific information concerning ARD using the ARD Surveillance System. While the ARD Surveillance System is formally implemented only at installations conducting Basic Combat Training, the guidance provided in this document applies to preventive medicine, primary care, and laboratory activities throughout the world and will form the basis for all surveillance programs.

b. The ARD is a leading cause of morbidity in the military. Large outbreaks of influenza, rheumatic fever, meningococcal disease, adenovirus infection, and other respiratory pathogens in the past illustrate the susceptibility of the military population to explosive, morbid epidemics. In recent years, outbreaks of ARD have been observed at various Army installations. Adenovirus will remain a major contributor to trainee health at Army Training Centers until a new, FDA-approved vaccine becomes available. Although no outbreaks of acute rheumatic fever (ARF) have occurred recently, there remains significant concern that cases of ARF could recur in the seasons ahead. Other causes of ARD possess the potential to cause epidemic disease whenever and wherever host, agent, and environmental factors combine to provide the opportunity.

c. The use of vaccines against influenza, meningococcus, and, until recently, adenovirus have had remarkable success in curbing both the frequency and size of ARD outbreaks in recent years. Nonetheless, certain segments of the military population (for example, basic trainees) remain at considerable risk. Trainees are given vaccines for influenza, measles, rubella, and meningococcal serogroups A, C, Y, and W135. Bicillin prophylaxis is also administered to trainees at some installations to prevent Group A beta-hemolytic streptococcal (GABHS) disease. The adenovirus vaccine supply was depleted in early 1999, and a new vaccine will not be available for several years. In the interim, an increase in ARD due to adenovirus is expected. Therefore, efforts to identify, define, and control these outbreaks must continue to receive emphasis.

d. Routine surveillance of ARD among basic trainees has been conducted since 1967. In the past, ARD surveillance was based on hospitalization (since all trainees with fever and respiratory symptoms were hospitalized). Recently, however, trainees with uncomplicated febrile ARDs have been removed from training and managed in self-care settings (for example, special barracks) or returned to the unit with limited duty profiles. This change in the practice of health care must be taken into consideration as ARD surveillance is performed.

B-2. Definition of ARD

a. For the purposes of the ARD surveillance in the Army, ARD is defined as a flu-like illness with a fever of 100.5 °F or greater and any of the following symptoms: sore throat, cough, runny nose, chest pain, or generalized muscle aching. This definition is intended as a guide for case identification/reporting and should not be construed as strict criteria for admission to an MTF.

b. Epidemiology and disease control personnel assigned to preventive medicine services who submit information to the ARD Surveillance System should report only those cases that satisfy this surveillance definition and are either hospitalized or returned to their unit with any profile limiting their duty for more than 24 hours. This includes limitations on physical fitness training.

c. In general, year-round use of the above definition of ARD as an admission standard is adequate for disease control practices. In periods of increased or high disease prevalence, more liberal admission criteria may be appropriate. Installations that conduct basic training or whose activities may otherwise enhance the spread of ARD (for example, installations with Advanced Individual Training) must assess the effect of local admission policies and/or procedures on disease control efforts. One of the primary functions of hospitalization is to remove the disease agent from the environment of susceptible individuals. Against a background of varying levels of disease activity, any particular set of admission criteria will have correspondingly more or less predictive value for communicable ARD.

B-3. Acute respiratory disease surveillance at basic training installations

a. ARD cases are identified among both hospitalized and ambulatory trainees as indicated in paragraph B-2a. Preventive medicine services must monitor troop medical clinic sick call trends with special focus on ARD. Upward ARD trends should be promptly investigated to determine the extent and nature of respiratory morbidity.

b. Although no large outbreaks of streptococcal disease or rheumatic fever have been observed in the past several years, there is still significant concern that such outbreaks could occur. Empirical evidence suggests that the detection of increasing streptococcal disease trends allows for the implementation of effective control strategies prior to the occurrence of ARF. Routine tracking of indicators of streptococcal disease activity (tables B-1 and B-2) is likely to identify populations at risk and provide a basis for prompt intervention. The Strep Recovery Rate and the Strep-ARD Surveillance (SAS) Index (SASI) must be calculated weekly for the trainee population.

c. Diagnosis of respiratory disease secondary to streptococcal infections is based on isolation of GABHS organisms in culture. Isolation of a single colony of GABHS is adequate for diagnosis. The streptococcal-acute respiratory disease

surveillance (table B-3) and control plan (table B-4) indicate appropriate response to the diagnosis of ARF or an elevated SASI.

d. Epidemics.

(1) The Army surveillance definition of an ARD epidemic will be a rate of > 1.5 percent per week for two consecutive weeks. This rate is calculated as the number of trainees with ARD (x 100) divided by the total number of trainees. (ARD is defined in paragraph B-2a.)

(2) Once identified, epidemics must be investigated promptly. The number of ARD cases required to exceed the epidemic threshold (that is, total number of trainees x .015) should be calculated locally at the beginning of each week. On a daily basis, the cumulative number of ARD cases for the week should be compared to this calculated number that defines an epidemic.

(3) Chiefs of preventive medicine should coordinate with laboratory services of the supporting MEDCEN in the RMC to ensure arrangements are in place to perform viral testing. These arrangements should include identification of primary point of contact at the MEDCEN, stockpiling of testing material, procedures for collecting and shipping of samples, and mechanisms for obtaining test results. If necessary, an EPICON can be requested, through MEDCOM, from the Directorate of Epidemiology and Disease Surveillance (DEDS), USACHPPM.

B-4. Acute respiratory disease surveillance reporting procedures at basic training installations

a. Report the incidence of ARD in the basic training populations at Forts Benning, Jackson, Knox, Leonard Wood, and Sill weekly to the ARD Surveillance System maintained by the AMSA, USACHPPM. Information will include the following data elements for each company-sized unit: unit designation, week of training, type of training, barracks type, number of males/females assigned, number of male/female ARD cases, number of streptococcal cultures performed on admitted males/females, and the number of GABHS isolates from cultures performed on admitted males/females. This information may be submitted to AMSA via e-mail or other electronic means to amsaadm@amedd.army.mil or faxed to (202) 782-0612.

b. AMSA will consolidate and analyze the basic trainee ARD surveillance information and distribute the information to OTSG, MEDCOM, the TRADOC surgeon, and chief of preventive medicine at each ARD reporting site.

c. All occurrences of ARF and meningococcal disease, either in isolation or in clusters, will be immediately reported to AMSA through the RMES. Additionally, any epidemics of ARD must be telephonically reported to the reportable medical events project officer at (202) 782-0471.

d. Figure B-1 depicts the information flow for an outbreak investigation at a CONUS installation.

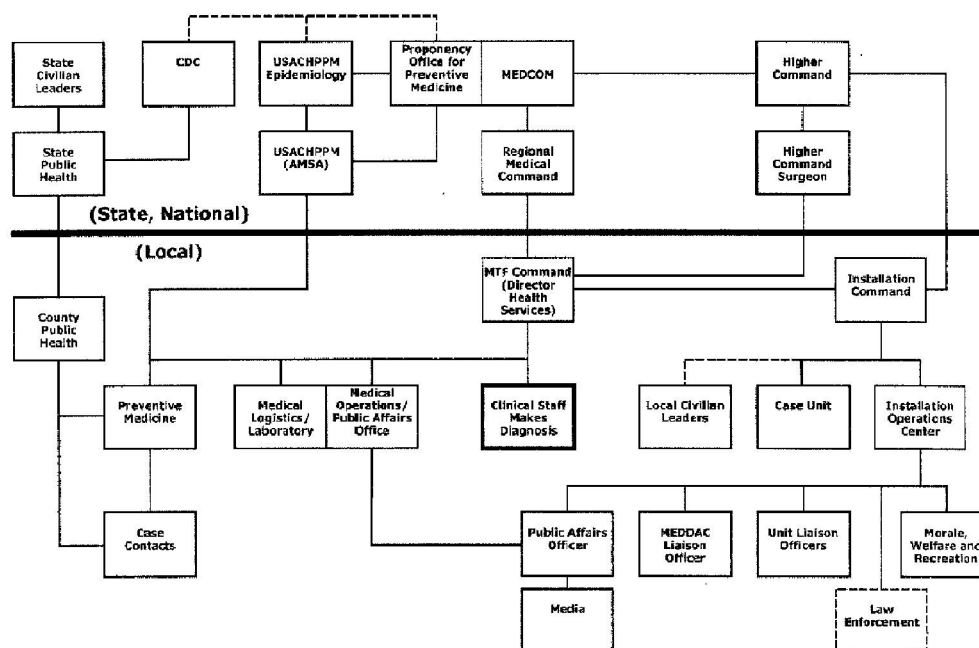


Figure B-1. Information flow for an infectious disease outbreak at a CONUS installation

B-5. Acute respiratory disease surveillance of groups other than basic trainees

a. ARD is not a problem unique to basic trainees. The non-basic trainee population at TRADOC installations, to include cadre, other permanent party personnel, and family members, should be indirectly monitored for any unusual illnesses. Non-TRADOC installations are also at risk of ARD outbreaks, especially if environmental factors are such to facilitate the spread of respiratory pathogens. Assessment of respiratory disease activity, perhaps limited to sentinel populations (for example, pediatrics clinics or certain troop medical clinics), should be a routine part of local preventive medicine surveillance activities. In the event of a suspected or confirmed outbreak, an investigation should be initiated and appropriate specimens collected.

b. Absenteeism is probably the best indirect indicator of an influenza outbreak, and surveillance efforts should be coordinated with local school authorities, command authorities, occupational health clinics, and civilian personnel offices. School and workplace absenteeism as well as visits to MTFs for febrile respiratory disease should be followed, particularly during the fall, winter, and spring seasons.

c. Since Army populations interact with other military and civilian communities, all surveillance efforts should be performed with some understanding of the incidence of disease in communities surrounding Army installations. Coordination with medical authorities from other services and local civilian health authorities is encouraged.

B-6. Acute respiratory disease surveillance in overseas areas

a. In Europe, a year-round ARD surveillance program should be operational, particularly through the influenza season. Sentinel health clinics could be used for this purpose.

b. In the Far East, ARD surveillance is also indicated. It is recognized that viral diagnostic capability is limited at the 121st Evacuation Hospital. Due to physical distances, it may be more feasible to send specimens to area diagnostic laboratories of other services. Medical authorities in Korea and Japan should contact other service representatives to see what support is available in the event of any unusual outbreaks, and a plan of support should be developed.

B-7. Outbreak investigations

a. All outbreaks of ARD are investigated. Ordinarily, personnel assigned to the installation's preventive medicine service conduct these investigations. A physician is part of the investigation team. A report is submitted through the

appropriate RMC to MEDCOM following completion of the investigation. A copy of the report is also sent to AMSA, USACHPPM.

b. In the event that local capabilities are insufficient to conduct an in-depth investigation, the local medical authority should contact the regional preventive medicine service for additional assistance. If necessary, an EPICON can be requested through MEDCOM from DEDS, USACHPPM.

c. In Europe, outbreak investigations are monitored by the European RMC preventive medicine consultant. Laboratory support should be provided by Landstuhl Army Medical Center and USACHPPM–Europe. If requested, EPICON support from DEDS, USACHPPM, can also be provided.

d. In Korea, outbreak investigations are coordinated by the preventive medicine officer, 18th Medical Command. If requested, EPICON support from DEDS, USACHPPM, can also be provided.

e. Table B–5 contains a decision support matrix to assist preventive medicine personnel in outbreak investigations.

Table B–1
Streptococcal throat culture-based indices

Name of Index	Formula	Comments
Strep Recovery Rate	$\frac{\text{Positive cultures}}{100 \text{ cultures}}$	Calculate on a weekly basis. Observe over time for trends. (Only positive throat cultures from trainees meeting the case definition are used in this calculation.)
Strep-ARD Surveillance (SAS) Index	$\frac{\text{Strep Recovery Rate} \times (\text{ARD Cases}) \times 100}{(\# \text{Trainees})}$	Calculate on a weekly basis. If >25 for 2 consecutive weeks, indicates significant streptococcal disease activity.

Table B–2
Suppurative complications of streptococcal infections

Complications	Comments
Peritonsillar abscess Paranasal sinusitis Otitis media Mastoiditis Suppurative adenitis Suppurative thrombophlebitis Metastases to joints or bones Meningitis Pneumonia	Monitor these events through admission/discharge diagnoses, emergency room logs, or through regular correspondence with appropriate clinical services. A marked increase in any of these events may be a sensitive, early indicator of an incipient rheumatic fever epidemic.

Table B–3
Streptococcal-acute respiratory disease surveillance

Definition	Phase I	Phase II	Phase III	Phase IV
Based on the Streptococcal-ARD Surveillance Index (SASI) and occurrence of cases of Acute Rheumatic Fever (ARF)	SASI not > 25 for 2 or more consecutive weeks AND No cases of ARF	SASI > 25 for 2 or more consecutive weeks OR One case of ARF	Two or more cases of ARF	Occurrence of cases of ARF despite bicillin prophylaxis

Table B-4
Streptococcal-acute respiratory disease control plan

Control	Phase I	Phase II	Phase III	Phase IV
See key below	1	1 and 2	1 and 2	1, 2, and 3

Notes:

¹ Perform throat cultures on all symptomatic patients, and administer intramuscular bicillin to those with cultures positive for GABHS.

² Administer bicillin to cadre and current trainees and to all new trainees as they enter the Reception Station.

³ Administer a second dose of bicillin to all trainees 4 weeks after the first.

Table B-5
Meningococcal disease decision support matrix

Codes		Events	Report (SIR) ¹		Actions			
		Indicator	Trigger-On	Trigger-Off	C4ISR ²	Access Control	Security Response	Commaand Information
1		Case/Outbreak Scenarios						
		Meningococcal disease diagnosed on post.	Diagnosis by medical personnel.	No additional cases diagnosed.	Patient treated. Preventive medicine conducts contact tracing and treatment. Case finding initiated. Preventive medicine reports case to AMSA, coordinates with local public health. Director of health services contacts command group, RMC. Health information operations initiated.			Report sent up military, medical, and public affairs office channels.
		Meningococcal disease diagnosed in DOD beneficiary living in the surrounding community.	Diagnosis made by civilian physician. Reported to local public health department and MTF.	No additional cases diagnosed.	Ensure adequate treatment. Consider transport to MTF. Preventive medicine conducts contact tracing and treatment on post. Preventive medicine reports case to AMSA, coordinates with local public health. Director of health services contacts command group, RMC. Health information operations initiated.			Report sent up military, medical, and public affairs office channels.
		Meningococcal disease diagnosed in non-DOD beneficiary in surrounding community.	Diagnosis made by civilian physician. Reported to local public health department.	No additional cases diagnosed.	Local public health department contacts preventive medicine services. Preventive medicine conducts contact tracing and treatment on post. Case finding initiated. Health information operations initiated.			

Table B-5
Meningococcal disease decision support matrix—Continued

Codes	Events	Report (SIR) ¹		Actions			
	Indicator	Trigger-On	Trigger-Off	C4ISR ²	Access Control	Security Response	Command Information
	Cluster of cases confined to one organization on post.	Preventive medicine determines nature of outbreak.	No additional cases diagnosed.	In addition to 1a activities, consider mass vaccination and/or mass chemoprophylaxis campaign in affected organization.	Planned visits by groups to unit may be cancelled or restricted.	Consider law enforcement assistance with crowd control.	Report sent to military, medical, and public affairs office channels. Large group cancellations sent to command group.
	Cluster of cases meets CDC definition of community outbreak.	Preventive medicine determines nature of outbreak.	No additional cases diagnosed.	In addition to 1a activities, consider mass vaccination campaign starting in high risk groups. Consult experts.	Planned visits by groups may be cancelled or restricted.	Consider law enforcement assistance with crowd control.	Report sent to military, medical, and public affairs office channels. Large group cancellations sent to command group.
	Cases continue to appear despite appropriate interventions.	Diagnosis by medical personnel.	No additional cases diagnosed.	In addition to 1a activities, evaluate antibiotic sensitivities, vaccine response, vaccine coverage rates, timing and coverage of mass chemoprophylaxis, unique virulence factors, environmental factors, and host factors. Consult experts.	Planned visits by groups may be cancelled or restricted.		Report sent to military, medical, and public affairs office channels. Large group cancellations sent to command group.
2	Information/Risk Communication						
	Senior Army leaders, civilian leaders, civilian health officials are concerned about response activities.	Formal and informal communications. Comments in the press.	Satisfaction expressed by leadership following briefings.	Educate leaders about the unique nature of the disease and dangers of inappropriate interventions. Consult with civilian and military experts. Deploy expert teams. Include civilian officials in response activities. Maintain effective reporting and communication.			Carefully state information requirements. Understand on-the-ground realities.
	Unsympathetic individuals or groups are concerned about the outbreak and are distrustful of the military or Government.	Individuals or groups approach the media; distribute inflammatory literature/email; hold demonstrations.	End of negative publicity.	Include civilian experts and officials in activities. Base interventions on sound scientific evidence. Anticipate negative messages. Execute open and effective health information operations campaign.	Consider limiting access to the installation.		
	Groups on post are concerned that they are not being treated equally or fairly.	Grievances are filed with the union; Congressmen are contacted; media are contacted; demonstrations are held.	End of complaints.	Base interventions on sound scientific evidence. Execute effective health information operations campaign.			Report to commanding general, interest groups, resident groups.

Table B-5
Meningococcal disease decision support matrix—Continued

Codes	Events	Report (SIR) ¹		Actions			
	Indicator	Trigger-On	Trigger-Off	C4ISR ²	Access Control	Security Response	Command Information
	Individuals refuse to take the recommended vaccine or antibiotic.	Complaints are filed.	Individuals agree to primary or alternate intervention.	Anticipate refusals and have alternate interventions or procedures in place. Consult with legal counsel and employee organizations. Execute effective health information operations campaign.			Report to commanding general, interest groups (unions, and so forth), resident groups.

Notes:

¹ =SIR – Significant Incident Report

² =C4ISR – Command, control, communications, computers, intelligence, surveillance, and reconnaissance

Appendix C

Tuberculosis Surveillance and Control Guidelines

C-1. Testing

a. Groups to be tested.

(1) Personnel not known to have a positive TST previously will be administered skin tests based on risk according to current CDC guidelines. Pregnancy and prior Bacille Calmette-Guérin (BCG) vaccination are not contraindications to TST. Such personnel may include—

(a) Personnel entering active duty for 30 days or more as part of reception processing. Reserve Officers Training Corps cadets participating in advanced camp training do not require tuberculin skin testing.

(b) Personnel changing their permanent station to overseas locations or deploying to overseas operations as determined by a screening process. The Functional Proponent for Preventive Medicine defines the screening requirements based on the incidence of endemic tuberculosis in the overseas locations.

(c) Personnel undergoing periodic, separation, or retirement physical examinations (every 5 years for most military members), unless a skin test has been administered within the past 12 months.

(d) Prospective employees (military and civilian), students, and volunteers as a condition for employment in health care facilities, schools, or in other facilities where tuberculosis transmission is of substantial concern, as defined by the CDC, state law or local ordinance. Additional periodic screening will be based on occupational risk.

(e) Contracting officers and their representatives. All contracts should include requirements that ensure contractors and their employees undergo tuberculin skin testing whenever said employees are working in an environment in which DOD employees would normally be required to undergo testing. The TST is paid for by the contractor.

(f) Inmates of detention and confinement facilities according to CDC guidelines.

(2) Personnel known to have a positive TST previously will not be administered further TSTs. However, possible exceptions to this rule may include—

(a) Clinically valid doubt about a previously recorded result (for example, talking with the patient reveals that prior reading ignored induration).

(b) Borderline result categorized as “positive” at prior test time (for example, 9 millimeter (mm) reaction in a patient with questionable risk factors, not previously treated, and in whom a 10 mm increase in reaction size or other factors might warrant treatment).

b. Tuberculin skin testing.

(1) The standard TST used by the AMEDD is the Mantoux test (as described below). While other tests for tuberculosis are available (for example, multi-puncture devices), these have inferior performance characteristics and should not be used. The multiple puncture (tine) tests are inaccurate and should not be used.

(2) The Mantoux test is the intradermal injection of 0.1 milliliter of purified protein derivative tuberculin containing 5 tuberculin units. Administration, classification and interpretation of reactions to the Mantoux test will be according to guidelines published by the CDC. The area of induration (palpable raised hardened area) around the site of injection is the reaction to tuberculin. The diameter of the indurated area should be measured across the forearm (perpendicular to the long axis). Erythema (redness) should not be measured. All reactions should be recorded in mm, even those classified as negative. If no induration is found, “0 mm” should be recorded. Reactions as small as 5 mm may be classified as “positive,” depending on the presence of various risk factors. If the reading is indeterminate or the patient

fails to return within 72 hours, the tuberculosis test should be very carefully repeated in the opposite arm, unless one of the following factors is present:

- (a) A readable induration persisting up to 96 hours after test placement.
- (b) Suspicion of hypersensitivity to a component of purified protein derivative based on history or residual clinical findings.
- (3) The TST sensitivity and immunity to tuberculosis after receiving BCG vaccine is highly variable. Also, there is no reliable method for distinguishing tuberculin reactions caused by BCG from those caused by natural infection. Since the incidence of tuberculosis is high in countries with BCG vaccination programs, a positive TST should be evaluated independently of BCG history. See CDC guidelines.
- (4) Administration and reading of TSTs require special training. Local policies should define who qualifies to administer and read TSTs and should require written certification of such individuals. Qualified personnel will receive annual retraining in the administration and reading of TSTs.
- (5) A TST may be placed concurrently with live-virus vaccines or must be delayed until at least 4 weeks after vaccine administration.
- (6) To reduce the likelihood that a boosted reaction will be misinterpreted as recent infection, two-step testing should be conducted as the initial testing for persons who will be tested periodically, that is, health care workers. In two-step testing, if an initial placement is negative, a second test is placed 1–3 weeks later on the other arm. A positive result indicates the second test is probably a boosted reaction (past infection or previous BCG immunization). The individual should be managed based on the results of the second test. If a boosted reaction is observed, it is not considered a skin test conversion. If the second test is negative, consider the person uninfected.
- (7) Classification of the TST reactions should follow current CDC/American Thoracic Society guidelines. A TST “reactor” is defined as an individual who has a positive skin test per CDC guidelines. A TST convertor is defined as an individual who has an increase of 10 mm or more in the size of induration within a 2-year period regardless of age; this is considered presumptive evidence of prior infection by the tubercle bacillus.

C–2. Evaluation and referral

- a. For individuals identified for the first time as TST-positive with no clear history of when infection occurred, a medical evaluation (as defined by CDC guidelines) is performed to determine if active disease is present. The evaluation includes a careful medical history eliciting signs or symptoms suggestive of infection and a chest x-ray. A posterior-anterior radiograph of the chest is the standard view used for the detection and description of chest abnormalities. In some instances other views (for example, lateral, lordotic) or additional studies (for example, computerized axial tomography (CAT or CT) scans) may be necessary. Information on medical history and results of diagnostic tests (for example, chest radiographs) are entered in the medical record.
- b. All individuals with a positive TST are referred to Army community health nursing and receive a medical evaluation by a physician or other appropriately privileged provider for consideration of preventive treatment for LTBI. (See subparagraphs C–4b and C–4c, below for those clients changing station or leaving the military health care system.)

C–3. Treatment and monitoring of LTBI

- a. The CDC has published treatment regimens that provide guidance on drugs, intervals and duration for LTBI treatment. Selection of the appropriate regimen is based on clinical evaluation and consultation with a physician. Preferred specialists for prescribing initial treatment are physicians certified in a preventive medicine specialty (including public health and occupational medicine), internal medicine, and any primary care physician with special training or experience in LTBI. If there is any doubt about the possibility of active disease, the preferred consultant is a pulmonary or infectious diseases specialist. The current preferred treatment regimens are outlined in the CDC guidelines.
- b. Treatment of individuals with LTBI who are deploying may be deferred. Recommendation for deferral is made by the evaluating provider on a case-by-case basis. (See paragraph C–1b, above.) Relevant factors to consider in this decision include how recently the infection occurred, operational duties of the individual, and the capabilities of medical support during deployment.
- c. For pregnant women with LTBI, decisions to initiate prophylactic treatment are made in consultation with the practitioner managing the pregnancy.
- d. Patients on chemoprophylaxis for LTBI are provided appropriate education on the disease process, medication and their individual treatment plan. The treatment plan and education provided are documented on a locally produced DA 4700 (Medical Record - Supplemental Medical Data) overprint, SF 600 (Medical Record-Chronological Record of Medical Care) nursing note and/or equivalent electronic medical record.
- e. All treatment decisions will be made in a consultation with the patient’s primary care manager. For children under the age of 13, the decision to initiate treatment will be made in consultation with a pediatrician, or with a family practitioner who manages pediatric patients. The local MTF commander in consultation with the chief of pediatrics, the

chief of preventive medicine, and the chief of community health nursing, has the responsibility for follow-up visits and monitoring of pediatric patients.

f. Baseline laboratory testing is not indicated routinely at any age. Baseline hepatic enzymes are checked in patients with viral hepatitis or HIV who are pregnant or have delivered within the last 3 months, who use alcohol regularly, or who have other history or risk of liver disease. Laboratory monitoring during treatment is indicated for patients with abnormal baseline evaluation, high risk for hepatic disease, HIV, pregnancy or other symptoms of hepatotoxicity. If transaminase levels exceed three times the upper limit of the normal range of the laboratory, a physician or other appropriately privileged provider makes a recommendation on the continuation of treatment with consideration of tuberculosis disease risk and the need for close clinical monitoring.

C-4. Documentation and tracking

a. A local tuberculosis registry is maintained by Army community health nursing for all persons under treatment for active disease and LTBI. This registry should include contacts of active disease cases requiring medical follow-up. DA Form 3897 (Tuberculosis Registry) is used for this purpose and can be locally reproduced. Local electronic databases may also be maintained.

b. For personnel under treatment undergoing a change of station, DA Form 3897 is mailed or sent electronically to the supporting preventive medicine service of the gaining organization to ensure continuity of care. The individual is counseled prior to his or her departure and told to report to Army community health nursing upon arrival at his or her next duty station.

c. For military (Active Component and Reserve Component) and civilian beneficiaries under treatment departing military service, the supporting medical commander notifies the appropriate health department where the individual will be living. The VA ordinarily assumes responsibility for military separatees who are under treatment for active tuberculosis disease.

d. Medical records will be annotated to reflect TST results, to include a specific record of the size of induration. For individuals with a history of a prior positive TST, an annotation will be made in the medical record to reflect when that evaluation was performed. If LTBI therapy was initiated and/or completed, this information is documented in the record along with details of duration of therapy and recommendations for follow-up. The TST results are documented on DD Form 2766, on DHHS Form PHS-731 (International Certificate of Vaccination) and in the appropriate electronic format as available.

e. A centralized electronic registry will be established in order to track and store data while ensuring patient privacy. Further guidelines will be issued when this system is on-line.

C-5. Coding

The following International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) codes are to be used for entering visits related to tuberculosis surveillance and control:

- a.* V74.1 Screening examination for pulmonary tuberculosis.
- b.* V01.89 Contact with or exposure to other communicable diseases.
- c.* V01.1 Contact with or exposure to tuberculosis.
- d.* V68.1 Issue of repeat prescriptions.
- e.* V72.7 Diagnostic skin and sensitization tests.

Appendix D

Facility Sanitation

D-1. Troop housing sanitation

a. Basic allowances.

(1) Basic facilities and space allowances for Army installation peacetime missions are described in AR 210-50.

(2) To minimize disease agent transmissions, the normal sleeping space allowance for persons in basic training is prescribed at not less than 72 square feet of floor space per person, exclusive of stairs, halls, latrines, utility rooms, recreation areas, storage rooms, or other administrative areas. All available billeting, including temporary facilities and tents when necessary, should be used to ensure this minimum space allowance. Commanders should schedule utilization of common use facilities such as dining facilities, classrooms, theaters, and latrine facilities to avoid overcrowding.

b. Plumbing fixture requirements. The design codes, standards and criteria for plumbing in all DOD facilities are prescribed by the UFC (UFC 3-420-01). Plumbing design and installation should conform to the current Uniform Plumbing Code™.

c. Ventilation. Heating and ventilation influence troop health and comfort. Barracks are ventilated to dilute unpleasant odors, tobacco smoke, airborne microorganisms and dusts, and to reduce temperature and humidity during warm weather. No amount of extra ventilation can compensate for overcrowding. In non-mechanically ventilated quarters, windows should be partially opened (except during extremely cold weather) when persons are sleeping. Local agreements should be reached between the installation engineer and medical commander or preventive medicine representative to achieve desired ventilation with minimum loss of heating equipment efficiency. The design codes, standards and criteria for heating, ventilating, and air-conditioning systems are prescribed for DOD facilities by the UFC (UFC 3-410-01FA).

D-2. Recreation areas

a. Particular attention must be placed on providing adequate potable water supply, waste disposal, drainage, prevention of soil erosion, and protection of watersheds.

b. Potable water should be supplied to all recreational areas except to those designated as wilderness areas.

c. Adequate solid waste disposal should be provided. Containers should be emptied and cleaned on a schedule approved by the medical commander or preventive medicine representative.

d. Liquid waste disposal should be through a sanitary sewer.

e. Non-waterborne waste disposal systems should not be used unless approved by the medical commander or preventive medicine representative. When approved, non-waterborne waste disposal facilities should be vermin-proofed, equipped with self-closing doors, adequately screened, and protected from inclement weather. Hand washing facilities should also be provided. The medical commander or preventive medicine representative should participate in establishing the cleaning and emptying schedules (as appropriate) with installation facilities engineering personnel.

D-3. Sports facility, gymnasium, and fitness center sanitation

a. Environmental considerations concerning Army sports facilities include prevention of infections due to contamination of equipment, towels, clothing, and other common use items, and provision of adequate facilities and housekeeping.

b. Common use items such as athletic shoes must be disinfected with an approved fungicide spray and air-dried thoroughly before being reissued. Towels and issued athletic clothing should be laundered before being reissued.

c. Whirlpool baths, steam cabinets, and other therapy-type equipment should be disinfected between users with either a disinfectant solution containing a minimum of 50 ppm-free available chlorine or an iodine disinfectant providing the equivalent of 25 ppm-free available iodine. Equipment should be rinsed with potable water after disinfection.

d. Showers and locker room floors and benches should be cleaned and disinfected at least daily. Toilet facilities should be cleaned at least daily. Disinfectant products should be applied according to manufacturers' instructions.

e. Athletic fields should be provided with adequate potable water supplies and convenient latrine facilities.

f. Temporary and mobile food services should be operated according to guidelines listed in TB MED 530. Athletic or sports drink bars serving only commercially canned or packaged drinks and food requiring no food preparation should provide basic sanitation including refrigeration; disposable cups, straws and utensils; waste disposal, and hand washing. Athletic drink bars serving items that require only minimum preparation, such as fruit and protein drinks, must meet the basic sanitation requirements and have a means to sanitize food service utensils and equipment, including blender cups, between uses.

g. Nutrition and sports drink bars are inspected for basic food sanitation. The level of risk associated with the operation determines the appropriate sanitary requirements. At a minimum, these operations maintain potentially hazardous foods at safe temperatures and ensure the washing and sanitizing of blenders, knives, and other food equipment. Disposable equipment is an alternative. Sanitation can involve use of a three-compartment sink or a National Sanitation Foundation (NSF)-listed commercial dishwasher or an NSF-listed household dishwasher operated

on a complete sanitization cycle. (Note that NSF-listed household dishwashers require extended time for washing and sanitizing.)

D-4. Disinfectant selection

a. Complete evaluation of disinfectant products for microbiological effectiveness is beyond the capability of most preventive medicine services and should not be undertaken. Disinfectants, sanitizers, and other chemical or physical agents designed to reduce or inhibit the growth of microorganisms may be used in food service facilities, child development centers, hospitals, and other areas as appropriate. Only products that have been approved by the EPA, the FDA, the U.S. Department of Agriculture (USDA), or any combination of these three agencies as required by Federal law should be used.

b. Selection of a disinfectant, sanitizer, or other such product is dependent on the following criteria:

- (1) The product is approved for the intended use.
- (2) The product is compatible with the local water supply considering hardness, pH, and other physical and chemical parameters.
- (3) The product is safe, nonirritating, and nontoxic when used according to directions.
- (4) The product performs the intended and stated task satisfactorily.

Appendix E

Barber and Beauty Shop Sanitation

Section I

Garrison and Fixed Facilities

E-1. General

Skin disease agents may be transmitted either through direct contact or by items such as towels, combs, clippers, or razors. Skin diseases of concern include scalp ringworm (*Tinea capitis*), ringworm of the bearded area of the face and neck (*Tinea barbae*), and impetigo and staphylococcal infections.

E-2. Employee hygiene

a. Barbers and beauticians must not work when ill with communicable disease or other conditions that might be transferred to a patron.

b. The medical commander or preventive medicine representative determines and confirms in a written policy if preemployment medical evaluations to ensure freedom from communicable disease, examinations before returning to work after illness, and special examinations are required. AR 40-400 contains examination authority including incident hospitalization.

c. Barbers and beauticians must keep their person and clothing clean when attending patrons. Smocks or uniforms should be changed at least daily.

d. Barbers and beauticians must not smoke, eat, or drink in the work areas (such as in back bar areas, styling stations, and shampoo and drying areas). Confine eating and drinking to designated employee break areas only. Customers should be prohibited from smoking in barber and beauty shops.

e. Barbers and beauticians must wash their hands vigorously with soap and water for at least 10 seconds after—

- (1) Each patron.
- (2) Handling trash.
- (3) Performing custodial duties.
- (4) Eating or drinking.
- (5) Smoking.

E-3. Sanitary facilities

a. Barber and beauty shops must not be located in food service or sleeping areas. However, barber and beauty shops can be located in the same building as a food service or sleeping area provided they have totally separate entrances and ventilation systems.

b. Barber and beauty shops must be provided with an adequate supply of hot and cold running water, proper plumbing fixtures, and adequate waste disposal. At fixed installations, provide a minimum of one lavatory for each two chairs. Locate the lavatory conveniently to both chairs served. Minimum hand washing facilities include hot and cold water, soap dispensers, disposable paper towels, and waste containers. In new construction, wrist blade or knee-operated faucets will be specified.

c. Adequate light and ventilation should be provided in shop interiors.

d. Sanitary conditions should be maintained in the shops at all times. Remove cut hair frequently from the floors. Clean floors using a push broom or vacuum, and then wet mop with commercial floor cleaning products.

e. Closed sanitary receptacles for waste materials and soiled linens should be provided.

E-4. Multiple service and disposable article sanitation (instruments, towels, and disposables)

Barbers and beauticians must—

a. Cover barber chair headrests with a clean sheet of paper or clean towel for each patron.

b. Use freshly laundered towels or individual disposable sanitary neck strips for each patron.

c. Change reusable clean haircloths whenever they are soiled or at least daily.

d. Not use common (natural bristle) brushes, neck dusters, shaving brushes, sponges, and powder puffs. Synthetic hairbrushes that are specifically designed to allow adequate cleaning and sanitizing between patrons are allowable. Use of automatic dispensers, brushless shaving cream, and clean towels in place of brushes or dusters is recommended.

E-5. Sanitary practices

a. Without the written consent of a medical officer, barbers and beauticians should not serve patrons when their face, neck, or scalp is inflamed, contains sores, or has erupted boils or pimples. Lice-infested personnel should not be served and should be referred immediately for medical treatment.

b. Barbers and beauticians must—

- (1) Not perform therapeutic practices such as treating blackheads, infected hairs, sores, or lesions.

- (2) Not pull hairs from ears, nostrils, eyebrows, and mustaches.
- (3) Use a freshly laundered towel or sterile absorbent cotton to apply powder or liquid material to stop blood flow. The medical commander or preventive medicine representative should approve the material. Barbers or beauticians should not use lump alum or styptic pencils.
- (4) Exercise caution in the purchase and use of cosmetics, tonics, lotions, hair dyes, and bleaches. Some preparations have been implicated in skin and eye irritation and hair loss.
- (5) Use only barber and beauty supplies that are USDA-, FDA-, or EPA-approved.

E-6. Sanitization of instruments

- a. Barbers and beauticians should—
 - (1) Clean and sanitize all barbering instruments immediately after use on each patron. Scissors, combs, and tools should be thoroughly washed with soap and hot water to remove all film, oil, and debris, and then dried with a clean towel or clean disposable tissue.
 - (2) Remove hair and debris from the exterior clipper surfaces using a stiff bristle brush designated only for this purpose.
 - (3) Wash and disinfect the barbering instruments immediately after use if, in the course of a barbering process, it is suspected that a patron has a communicable disease or infection.
 - (4) Thoroughly clean and sanitize instruments that are not intended to penetrate the skin but that may become contaminated with blood (for example, razors).
 - (5) Wash and disinfect all barbering tools at the close of each day's operation.
 - (6) Use running water to rinse all barbering instruments disinfected in a chemical solution to remove chemicals before patron use.
 - (7) Assure containers for instrument disinfection have covers and are of sufficient size to accommodate all instruments.
- b. Disinfection should employ any liquid chemical disinfectant specifically formulated for barbering tools and carrying a label registered by the USDA or EPA, or one approved by preventive medicine personnel. Germicides should be mycobactericidal because mycobacteria are one of the most resistant groups of microorganisms. Disinfectants should be used according to label instructions. Other disinfection procedures, such as ultraviolet lamps, should be used only with medical approval. Disinfection solutions should be prepared and changed frequently enough to ensure bactericidal effectiveness when used or at least once daily.

E-7. Posting of regulation

A copy of this appendix should be maintained (preferably in a folder on a magazine rack) for customer inspection in each barber and beauty shop.

E-8. Inspection form

- a. Requirements of DA Form 5402 (Barber/Beauty Shop Inspection) are directly related to requirements in this appendix. Use of this form is strongly recommended for all preventive medicine services.
- b. DA Form 5402 can be locally reproduced.

E-9. Field barber kit

Skin diseases can easily be transmitted either through direct contact or by items such as towels, combs, clippers, or razors. To minimize such disease transmission, all military personnel using the field barber kit (NSN 3590-00-058-1837) at organizational and unit levels should clean and sanitize all barbering instruments before and after each use according to E-6, above.

E-10. Hair weaving

Requirements for hair weaving and braiding and for weaving synthetic hair extensions should meet the state or local beautician code. At a minimum, these operations must be performed in a location completely separate from food service or sleeping areas. Requirements for hand washing, changing neck cloths, excluding patrons with possible communicable diseases or skin infections, cleaning and sanitizing utensils, and handling waste are the same as those for beauty and barber shops.

E-11. Artificial nails and nail decorations

Artificial nails and nail decorations can be a source of disease organisms and blood. Employees and patrons may be exposed to glues and other chemicals. The local preventive medicine activity approves these operations and the

location of these operations. Food service workers are prohibited from wearing artificial nails and nail decorations while handling, preparing or serving food (TB MED 530).

Section II

Field Environments

E-12. General

The following guidance applies only to field environments and deployments where garrison or fixed facility barber shops are not available.

- a. The command surgeon, or his designated representative, determines the actual local guidance to be followed, including the use of any guidance in section I, above.
- b. The command surgeon, or the local medical commander, should evaluate the local field or deployment situation and adjust this guidance when appropriate.

E-13. Employee hygiene

- a. The command surgeon determines if barbers and beauticians require preemployment health screening. This is particularly important where local national barbers and beauticians are contracted or hired.
- b. Barbers and beauticians will wear a clean, light-colored uniform, dress, jacket and trousers, smock or other similar uniforms. Uniforms should be changed daily and laundered using a commercial or field laundry facility.
- c. Hand washing facilities and equipment must be available. Field-expedient hand washing facilities meeting the requirements in FM 21-10/MCRP 4-11.1D are acceptable, provided the employees can adequately wash their hands.
- d. In situations where neither fixed nor field hand washing facilities can be provided, the command surgeon may, *but is not required to*, authorize the use of a combination of hand cleaning wet disposable towels, followed by proper application of waterless hand sanitizers, and thorough air drying of the hands between patrons.
- e. Employee's hands, cuticles, and fingernails will be kept clean. Employees will clean their hands immediately before serving a customer and after using the lavatory.

E-14. Sanitary facilities

- a. Do not set up and conduct barber and beauty shop operations in any area used for sleeping or food service operations as defined in TB MED 530. This does not prohibit temporary (less than 1 day) barber and beauty shop operation in day rooms or recreational areas provided the requirements for cleanliness of facilities, sanitation of equipment and personal hygiene in this guidance are met and the barber and beauty operations do not present a health hazard to other users of the facility.
- b. Each barber and beauty shop will have conspicuously displayed near the entrance or cash register, the name, location and, if available, contact information of the immediate U.S. Government supervisor or contract representative and the inspecting preventive medicine activity. The purpose of this requirement is to facilitate customer complaints to the correct agency.
- c. Electrical equipment will be connected to a properly grounded circuit or will be battery-operated.

E-15. Patron health

- a. Barbers or beauticians will examine patrons prior to cutting their hair to ensure there is no disease or sores on the scalp or back of the neck.
 - (1) Barbers or beauticians will not treat any patron with any evidence of skin disease, sores, or other scalp irritation, or insect infestation such as head lice.
 - (2) A fresh, single-use tissue neckband must be used for every patron.
- b. The command surgeon, his designated representative, or the local supporting medical commander may, based on the tactical and security situation, require that barber/beauty shop personnel report the names and contact information of patrons who are refused service due to skin diseases or insect infestation.

E-16. Sanitary practices

- a. Barber and beauty shops that do not meet the requirements of section I, above, will limit services to washing, cutting, and setting hair, and basic fingernail and cuticle care.
- b. If a patron requests shaving of the face or neck, barbers will use a single-use, disposable razor for each patron. Razors will be disposed of after each use.
- c. Only powdered or liquid astringents, applied with a clean paper neckband or paper towel, may be used to stop bleeding. Bloody towels or neckbands will be disposed of immediately in the covered, lined trash can.
- d. The following practices are prohibited:
 - (1) Shaving with a straight razor.
 - (2) Removing ingrown hairs.
 - (3) Squeezing pimples or blackheads.

- (4) Using a septic pencil to stop bleeding.
- (5) Leaving patrons unattended under a hooded hair dryer.
- (6) Using chemical hair treatment, permanents or fingernail treatments, such as gluing on artificial nails or jewelry.
- (7) Using powder puffs.

E-17. Sanitization of instruments

a. Clean and sanitize all clippers, scissors, combs and manicure equipment used to remove dirt, oils, and excess hair immediately after each patron. Use a clean brush or paper towel to remove hair.

b. Immerse all non-metallic items, combs, brushes, and other hair and manicure equipment in a solution of EPA-registered barbicide sanitizing solution for the period of time recommended by the sanitizer manufacturer.

(1) This sanitization process must be done between each patron. Change these solutions daily.

(2) In overseas areas where EPA-registered barbicide sanitizers are not available, a 200-ppm chlorine solution may be used for sanitizing instruments.

(a) Instruments must be cleaned first.

(b) Place instruments in the chlorine solution to expose all parts (for example, open scissors), and soak the instruments in the chlorine solution for at least 1 minute.

(c) Use test strips to measure sanitizer concentrations, whether using chlorine or another chemical sanitizer.

(d) Rinse instruments with potable water after soaking to remove the chlorine residual.

(e) Prepare a fresh chlorine concentration daily, checking the chlorine concentration after preparation; check the chlorine concentration whenever a chlorine solution is prepared.

(f) Remember that chlorine solutions are corrosive and can be a skin irritant.

(3) Brush all metallic items, such as hair clipper blades, to remove hair, then clean and sanitize the items with a barbicide disinfectant spray, or soak them in a sanitizing solution.

(4) The use of ultraviolet disinfectant light boxes is prohibited.

(5) Ensure that each barber and beauty shop employee has at least two of each instrument used (comb, brush, scissors, curling iron, and manicure equipment). This will allow time for proper sanitization between patrons.

Appendix F

Mobile Home Parks Sanitation

F-1. General

Mobile home parks include locations intended for permanent or semipermanent places of residence. They do not include locations of temporary residence intended for recreational vehicles, travel trailers, and similar vehicles.

F-2. Location

Locate mobile home parks in level, well-drained areas and not adjacent to swamps, marshes, breeding places for insects and rodents, or heavy industrial zones. The mobile home park should have good natural drainage or a storm drainage system. Storm drainage should not endanger any water supply. All-weather roads, both to and within the park, should be provided.

F-3. Individual parking areas

Each area should be at least 45 by 70 feet and surfaced to provide a level, well-drained space under and adjacent to the mobile home. In mobile home parks that allow parking of double-wide or extended-length mobile homes, minimum individual parking areas for these trailers should be at least 25 feet wider and 20 feet longer than the trailer.

F-4. Mobile home

The mobile home should be of substantial construction and designed and constructed according to standards for commercial-type trailers. Each mobile home should contain at least 35 square feet of floor space per occupant. Lean-tos, sheds, or additional rooms should not be attached to the mobile homes. Open porches, awnings, and original-equipment expandable rooms are authorized, provided a minimum clear area of 10 feet between the mobile home and the individual parking area line is maintained. If locally authorized, centralized or individual storage sheds may be erected, provided they are equipped with suitable foundations and floorings and are not used for human habitation. Closed porches and sunrooms are authorized, provided they meet local building codes, including those governing minimum clear space area.

F-5. Water supply

Potable water should be provided at each mobile home space by means of suitable sanitary connections. Plumbing and sewage should be designed and installed under the current Uniform Plumbing CodeTM, or other applicable state codes if more stringent.

F-6. Liquid waste and wash water disposal

A vertical drainpipe equipped with a suitable trap and connected to a sanitary sewer should be provided at each mobile home space. The connection between the drainage system of the mobile home and the vertical drain should be made to exclude insects and rodents, prevent leakage and escaping odors, and otherwise prevent health hazards.

F-7. Human waste disposal

a. The mobile home water closet connection should only be made by facility engineering personnel and then only when—

(1) Mobile home plumbing fixtures and the system are approved by the facilities engineer and the medical commander or preventive medicine representative.

(2) The mobile home park sewer system is designed, installed, and operated under Army standards. Liquid wastes should drain into an approved sewer system or treatment and disposal facility. Submit requests for exception to HQDA (DASG-HS-PE), 5109 Leesburg Pike, Falls Church, VA 22041-3258.

b. Refer to TB MED 576 for additional guidance.

F-8. Service buildings

Each mobile home park should have at least one service building to provide necessary sanitation and laundry facilities.

a. Heating facilities should be capable of maintaining a temperature of 65 °F in cold weather.

b. Adequate lighting should be provided inside and outside buildings.

c. Service buildings should be conveniently located within 100 yards of the most remote mobile home space.

d. Every mobile home park should provide adequate toilet and laundry facilities as indicated in the Uniform Plumbing CodeTM. These fixtures are necessary to provide adequate facilities when mobile homes are repaired, connected, disconnected, or used for other emergencies, even though the mobile home park may accommodate only independent coaches.

e. In areas prone to tornados and other severe storms, service buildings must be designed and constructed to serve as an emergency shelter for park residents. Service buildings should be sized to handle 110 percent of the park residents.

F-9. Area sanitation

Roads, car parks, sidewalks, and other areas should be provided with surfacing to control dust and mire. Adequate drainage should be provided to prevent accumulations of surface water.

F-10. Illumination and fire protection

Adequate area illumination and fire protection should include a suitable electrical outlet at each mobile home space. Area illumination should be arranged to avoid annoyance to mobile home occupants.

F-11. Protection of utility connections

Mobile home utility terminals should be adequately secured. Terminals should be located to assure protection from tampering, breakage, or contamination.

F-12. Design criteria

Design criteria for development and evaluation of mobile home parks are provided in NFPA Standard 501A. This publication should be used in developing local mobile home park sanitation programs as required.

Appendix G Radiation Protection

G-1. Control of radiation sources

a. General.

(1) Army organizations responsible for the design or development of equipment that contains radioactive materials or is capable of producing radiation or the incorporation of such equipment into Army systems must ensure that such equipment or devices have been evaluated for potential health hazards in accordance with AR 40-10. This evaluation takes place during the research, development, test, and evaluation phase of the equipment and before acceptance or adoption (AR 40-10, AR 70-1, and AR 385-10). A reevaluation of the equipment must be made if substantial modifications are made between the initial evaluation and final acceptance or adoption.

(2) Commanders of installations or activities responsible for the operation or testing of radiation-producing equipment ensure (through their RSO) that—

(a) A qualified expert has assessed the equipment before operation.

(b) SOPs are published, posted and enforced. These SOPs specify the safety policies concerning operational limitations placed on the equipment and the control of the movement of personnel to ensure that their exposure is minimized. The RSO maintains a centralized file of all radiation protection SOPs.

(3) All controlled areas must be properly marked, have proper warning signs, and, where required, have proper warning signals and safety switches (10 CFR 20, AR 11-9, TB MEDs 521, 523, and 524, and MEDCOM Regulation 40-42).

(4) Individuals required to receive notice in the event of emergencies, such as major spills or accidental release of radioactive material, bodily injury, fire, and major malfunction of equipment that may produce or generate potentially hazardous radiation fields, must be designated in writing. A list of those persons and phone numbers are to be posted in each area where access is controlled for radiation protection purposes.

(5) A comprehensive physical inventory of radioactive material and equipment capable of producing radiation is performed and maintained by the RSO (AR 11-9).

b. Occupational safety training.

(1) All persons working in or frequenting any portion of a controlled area where radioactive materials are used or stored, or where equipment capable of producing radiation is energized, must be informed of the radiation hazard involved and must be instructed regarding the rules and procedures to be observed (AR 11-9; 10 CFR 19, 20, and 35; and other applicable regulations or guidance). Instruction topics include—

(a) The type and extent of radiation hazards associated with their jobs.

(b) Safe working techniques and procedures to include proper use of applicable protective clothing and equipment that minimize their exposure and the exposure to the general public.

(c) Procedures to be followed when an accident or incident occurs or in other emergency situations.

(d) The appropriate methods and frequencies for performing required preoperational, operational, and post-operational checks or surveys of all radiation safety devices, such as alarms, lights and interlocks installed on or near radiation sources; defective devices should be replaced or repaired before continuing operation.

(e) Procedures for maintaining an operational log for each piece of equipment that identify when interlocks and other control or warning devices are checked, bypassed or overridden.

(2) Additional information on the consolidated list of required training topics can be found in appendix J of NUREG 1556-9.

(3) Records of the above instructions are to be maintained by the RSO. They should include a brief outline of the instructions and a list of persons who received these instructions. See AR 25-400-2 for Army recordkeeping policy and guidance.

c. Control of ionizing radiation hazards.

(1) The RSO ensures that surveys of all laboratories and work areas where radioactive materials are used or stored are performed as required by applicable regulations and the conditions of their NRC license or ARA. These surveys evaluate the effectiveness of controls and procedures, ventilation, respiratory protective equipment, fixed and transferable surface contamination, airborne radioactive materials, radioactive effluents to the environment, and general exposure levels. The frequency of any radiation survey depends on such factors as the type of operation, the type and level of the radiation, the rate at which changes could unknowingly develop, the potential hazard, and the degree of personnel involvement. Since there may be possibilities of radiation or radioactive contamination occurring in generally unexpected locations, the survey procedures should address monitoring or surveying uncontrolled (unrestricted) areas.

(2) All termination and closeout surveys must comply with applicable Federal, state, and Army requirements.

(3) Smoking, eating, drinking, or applying cosmetics is not permitted in areas where unsealed radioactive materials are used or stored. Food or drink cannot be stored in an area where radioactive materials are stored.

(4) To reduce the possibility of fire or other major disasters, buildings where radioactive materials are used and stored must be constructed of fire-retardant materials. Fire prevention and security personnel need to be informed, in

writing, on at least an annual basis, of any buildings or areas where potential radiation hazards may exist. Firefighters, security guards, and military police need to understand the specific conditions under which it is safe to respond to emergencies. Including such information in plans and SOPs is essential.

(5) All accidents or incidents involving radioactive material or other radiation sources must be investigated and reported according to the applicable requirements in 10 CFR 20, AR 11–9, AR 385–40 and chapter 5 of this pamphlet. At a minimum, the following individuals are to be notified when any accident or incident involving radiation is discovered:

- (a) The immediate supervisor.
- (b) The local RSO.
- (c) The medical commander or preventive medicine representative.

(6) For accidents or incidents involving radioactive material, the RSO will determine if notification of additional individuals or organizations is required based on MACOM regulations, Federal regulations and NRC license or ARA conditions. Personnel who may need to be notified include the following individuals:

- (a) The supporting medical officer and/or occupational health physician.
- (b) The licensee.
- (c) The MACOM radiation safety staff officer.
- (d) The regulatory agency (for example, NRC).

(7) TB MED 521 provides the criteria for the planning, procurement, installation, calibration, preventive maintenance, evaluation, and use of diagnostic and therapeutic x-ray equipment.

(8) Qualified experts perform radiation protection surveys on all new or modified diagnostic or therapeutic x-ray systems before clinical use as specified in TB MED 521.

(9) Nonmedical ionizing radiation facilities and equipment are classified and governed by procedures or conditions of the facility's NRC license, ARA, Army Radiation Permit, or applicable ANSI standards published by the Health Physics Society, for example, the N43 series (<http://hps.org/hpspublications/standards.html>).

(10) Qualified experts perform radiation protection surveys on all new or modified nonmedical ionizing radiation facilities and equipment before placing the equipment in routine operation.

(11) Radiation protection surveys should be performed periodically by the local RSO to determine the exposure or exposure rate in the environment during operation of the equipment. These surveys will be conducted in areas determined by the RSO and must include, at a minimum, area surveys required by the applicable NRC License.

(12) All radioactive material, other than nuclear weapons, are transported (shipped and received) according to the requirements of 49 CFR and other applicable Federal and state regulations. Packaging and handling deficiencies are reported according to 10 CFR 20 and 49 CFR, and discrepancies in shipment should be reported according to 49 CFR.

(13) Unwanted radioactive material is disposed of according to AR 11–9.

(14) The impact of the use of radioactive materials on the environment is evaluated or assessed in accordance with AR 200–2.

d. Control of nonionizing radiation hazards.

(1) Commanders of installations or activities responsible for the operation or testing of nonionizing radiation generating equipment—

(a) Ensure compliance with procedures prescribed in AR 11–9, TB MEDs 523 and 524, and TB 385–4.

(b) Ensure that all alleged overexposures or accidents involving this equipment are reported to the installation or activity RSO.

(2) The installation or activity RSO—

(a) Ensures the immediate evacuation of personnel suspected of experiencing potentially damaging eye exposure from laser radiation to the nearest medical facility for an eye examination. (See FM 8–50.) Laser eye injuries require immediate specialized ophthalmologic care to minimize long-term visual acuity loss.

(b) Contacts USACHPPM within 24 hours of alleged nonionizing radiation overexposure to forward information regarding the incident and to initiate an investigation by USACHPPM. During duty hours, contact either the laser and optical radiation program manager or the radiofrequency radiation program manager. During non-duty hours, contact the USACHPPM duty officer.

(c) Ensures that the potentially overexposed individual(s) receive(s) an appropriate medical evaluation within 48 hours of the incident.

(d) Develops and transmits a radiological incident report using the format specified in AR 385–40.

(3) The OTSG directs USACHPPM to conduct an on-site investigation when—

(a) A lesion or ocular complaint may have resulted from overexposure to nonionizing radiation.

(b) An exposure to radiofrequency radiation exceeding five times the PELs in AR 11–9 may have occurred.

(4) Commander, USACHPPM—

(a) Investigates all incidents of alleged nonionizing radiation overexposure.

(b) Conducts on-site investigations when directed by the OTSG or requested by the installation commander. The

investigation may include measurement of nonionizing radiation exposure levels, a detailed description of the circumstances surrounding the incident, recommendations for medical follow-up, and recommendations to prevent recurrence of the incident.

(c) Maintains reports of OTSG-directed investigations of incidents or accidents involving nonionizing radiation source exposure.

G-2. Protective clothing and equipment

a. Ionizing radiation.

(1) Protective clothing and respiratory protective equipment may be required to minimize the exposure of the worker. When required, such equipment and clothing is to be identified for control purposes. (See AR 385-10.) Adequate respiratory protection should be worn by all occupationally exposed individuals when airborne radioactive materials in the work area are expected to exceed the value specified in 10 CFR 20, appendix B.

(2) Engineering controls, such as containment or ventilation, should be used to control airborne radioactive materials to the extent practical. If such engineering controls are not practical or are still insufficient to ensure that all radiation doses are below the dose limit specified in AR 11-9 and as low as reasonably achievable, adequate respiratory protection should be provided in accordance with 10 CFR 20, subpart H (10 CFR 20.1701-1705).

(3) A respirator that is not used routinely, but maintained ready for emergency use, should be inspected after each use and at least monthly to assure that it is in satisfactory operating condition (TB MED 502/DLAM 1000.2). A record of inspection dates and findings should be maintained. See AR 25-400-2 for Army recordkeeping policy and guidance.

(4) When laboratory hoods are used to maintain minimum levels of airborne radioactive material in work or storage areas, the airflow in the hood must have an average velocity of at least 125 linear feet per minute (38 meters/minute) plus or minus 10 percent through the fully open face. Glove box hoods must have an inward average velocity of 50 feet per minute through doors/ports or 0.25-inch static pressure on a closed system.

(a) Dual speed fans in hoods are necessary to permit operation at a higher velocity while the hood is in use and at a lower velocity when it is closed. Bypass openings are necessary to maintain proper hood and room pressure balance. The variations in air velocity through the open face must not exceed plus or minus 20 percent.

(b) Each hood must have an independent exhaust system with the fan installed outside the building or at the point where the exhaust leaves the building to ensure that the ductwork inside the building is under negative pressure. Exhaust discharge points at least 10 feet (3.1 meters) above the roof and 100 feet (31 meters) from any air intake are absolutely critical to minimize radioactive effluents being carried back into the same or adjacent buildings. The fan discharges into a vertical stack with no directional baffles or projections.

(5) Laboratory hoods are evaluated and flow measurements made at least semiannually. Documentation of such measurements is maintained. See AR 25-400-2 for Army recordkeeping policy and guidance.

b. Nonionizing radiation. Personal protective equipment is only used when other control measures do not provide adequate protection. TB MED 524 provides guidance for the proper use and marking of laser eye protectors. Skin and corneal personal protective equipment for ultraviolet sources may include gloves, long-sleeved shirts, non-synthetic tightly woven fabric material, and polycarbonate safety glasses. Electrically insulated gloves and shoes are authorized for protection against radiofrequency shock and burn or for insulation from the ground plane when necessary for compliance with induced radiofrequency current limits.

G-3. Radiation detection and measuring equipment

a. Ionizing radiation. Radiation detection and measurement equipment is calibrated in accordance with AR 11-9 and applicable technical manuals and NRC License and ARA conditions.

b. Nonionizing radiation. The instrumentation required to adequately assess nonionizing radiation hazards is highly specialized, and should only be used for hazard assessments by personnel capable of interpreting the results of such measurements. USACHPPM can perform detailed field measurements of nonionizing radiation sources.

G-4. Radiologic facility shielding analysis

a. Design plans for the modification of existing medical radiographic facilities and design or construction specifications for new medical radiographic facilities must be reviewed by a qualified expert prior to modification or construction according to TB MED 521.

b. Plans and design specifications for nonmedical ionizing radiation facilities are reviewed and evaluated by a qualified expert before the modification or construction of a new industrial radiologic facility.

Glossary

Section I Abbreviations

ACGIH®

American Conference of Governmental Industrial Hygienists

ACIP

Advisory Committee on Immunization Practices

ACOEM

American College of Occupational and Environmental Medicine

ADR

automated dosimetry record

AFMIC

Armed Forces Medical Intelligence Center

AFPMB

Armed Forces Pest Management Board

AIHA

American Industrial Hygiene Association

AMEDD

U.S. Army Medical Department

AMEDDC&S

U.S. Army Medical Department Center and School

AML

area medical laboratory

AMSA

U.S. Army Medical Surveillance Activity

ANSI

American National Standards Institute

APD

U.S. Army Publishing Directorate

AR

Army regulation

ARA

Army Radiation Authorizations

ARD

acute respiratory disease

ARF

acute rheumatic fever

ASMB

area support medical battalion

ATSDR

Agency for Toxic Substances and Disease Registry

BCG

Bacille Calmette-Guérin

BEI[®]

biological exposure indices

BRAC

Base Realignment and Closure

CAMAC

Comprehensive Accreditation Manual for Ambulatory Care

CAMH

Comprehensive Accreditation Manual for Hospitals

CAT (or CT)

computerized axial tomography

CDC

Centers for Disease Control and Prevention

CDS

child development services

CFR

Code of Federal Regulations

CHEMTREC

Chemical Transportation Emergency Center

CHN

community health nurse

CLIP

Clinical Laboratory Improvement Program

CMP

Cholinesterase Monitoring Program

CONUS

continental U.S.

CPG

clinical practice guideline

CRC

case review committee

CYS

child and youth services

DA

Department of the Army

DAC

Department of the Army civilian

DA Pam

Department of the Army pamphlet

dB

decibel

dBA

decibels, A-weighted

DCS, G-1

Deputy Chief of Staff, G-1

DEDS

Directorate of Epidemiology and Disease Surveillance (USACHPPM)

DEET

N,N-diethyl-meta-toluamide

DENTAC

U.S. Army dental activity

DFAS-IN

Defense Finance and Accounting Service-Indianapolis Center

DFC

Dental Fitness Classification

DHHS

U.S. Department of Health and Human Services

DHP

Defense Health Program

DLA

Defense Logistics Agency

DLAI

Defense Logistics Agency instruction

DLAM

Defense Logistics Agency manual

DMSS

Defense Medical Surveillance System

DNA

deoxyribonucleic acid

DNBI

disease and non-battle injury

DNL

day-night average sound level

DOD

Department of Defense

DODD

Department of Defense directive

DODI

Department of Defense instruction

DOE

U.S. Department of Energy

DOEHRS

Defense Occupational and Environmental Health Readiness System

DOEHRS–HC

Defense Occupational and Environmental Health Readiness System-Hearing Conservation

DOEHRS–IH

Defense Occupational and Environmental Health Readiness System-Industrial Hygiene

DOL

U.S. Department of Labor

DOTMLPF

doctrine, organizations, training, materiel, leadership and education, personnel, and facilities

EBS

environmental baseline survey

EEOC

U.S. Equal Employment Opportunity Commission

EEP

emergency essential personnel

EPA

U.S. Environmental Protection Agency

EPAS

Environmental Performance Assessment System

EPICON

epidemiology consultative

FDA

Food and Drug Administration

FECA

Federal Employees Compensation Act

FGS

Final Governing Standards

FHP

Force Health Protection

FIFRA

Federal Insecticide, Fungicide and Rodenticide Act

FM

field manual

FST

field sanitation team

FUDS

Formerly Used Defense Sites

FY

fiscal year

GABHS

Group A beta-hemolytic streptococcal

GLP

Good Laboratory Practice

HAZCOM

hazard communication

HEPA

high efficiency particulate air

HHA

health hazard assessment

HHIM

Health Hazard Information Module

HIV

human immunodeficiency virus

HQDA

Headquarters, Department of the Army

Hz

hertz

ICD

International Classification of Diseases

ICD-9-CM

International Classification of Diseases, 9th Revision, Clinical Modification

ICPA

Installation Compensation Program Administrator

IEC

International Electrotechnical Commission

IHA

industrial hazard assessment

IPMIS

Integrated Pest Management Information System

IRDB

Ionizing Radiation Dosimetry Branch

IRP

Installation Restoration Program

ISO

International Organization for Standardization

JCAHO

Joint Commission on Accreditation of Healthcare Organizations

LTBI

latent tuberculosis infection

MACOM

major Army command

MEDCEN

U.S. Army medical center

MEDCOM

U.S. Army Medical Command

MEDDAC

U.S. Army medical department activity

MEDPROS

Medical Protection System

MIDI

Military Item Disposal Instruction

MIL–HDBK

military handbook

MIL–STD

military standard

MIM

Medical Information Module

mm

millimeter

MMWR

Morbidity and Mortality Weekly Report

MODS

Medical Operational Data System

MSDS

material safety data sheet

MTF

military treatment facility

NBC

nuclear, biological, chemical

NCO

noncommissioned officer

NEPA

National Environmental Policy Act

NFPA

National Fire Protection Association

NIOSH

National Institute for Occupational Safety and Health

NPDES

National Pollutant Discharge Elimination System

NPDWR

National Primary Drinking Water Regulations

NRC

Nuclear Regulatory Commission

NSF

National Sanitation Foundation

OASD(HA)

Office of the Assistant Secretary of Defense for Health Affairs

OCONUS

outside the continental United States

OEBGD

Overseas Environmental Baseline Guidance Document

OEH

occupational and environmental health

OEH/ED

occupational and environmental health and endemic disease

OHMIS

Occupational Health Management Information System

OHN

occupational health nurse

ORM

operational risk management

OSD

Office of the Secretary of Defense

OSHA

Occupational Safety and Health Administration

OTSG

Office of The Surgeon General

OWCP

Office of Workers' Compensation Program

PCS

permanent change of station

PEL

permissible exposure limit

ppm

parts per million

PT

physical training

REL

recommended exposure limit

RMC

regional medial command

RMES

Reportable Medical Events System

RMW

regulated medical waste

RSO

radiation safety officer

SAS

Streptococcal-ARD Surveillance

SASI

Streptococcal-ARD Surveillance Index

SC

subchapter

SF

Standard Form

SIR

Significant Incident Report

SMCT

Soldier's Manual of Common Tasks

SOFA

Status of Forces Agreement

SOHAC

safety and occupational health advisory council

SOP

standing operating procedure

STD

sexually transmitted disease

STEL

short-term exposure limit

STP

Soldier Training Publication

TB MED

technical bulletin, medical

TG

technical guide

TIM

toxic industrial material

TLV®

threshold limit value

TM

technical manual

TRADOC

U.S. Army Training and Doctrine Command

TSG

The Surgeon General

TST

tuberculin skin test

TWA

time-weighted average

UFC

Unified Facilities Criteria

USACHPPM

U.S. Army Center for Health Promotion and Prevention Medicine

USAMRMC

U.S. Army Medical Research and Materiel Command

USARIEM

U.S. Army Research Institute of Environmental Medicine

USCENTCOM

U.S. Central Command

USC

United States Code

USDA

U.S. Department of Agriculture

USPHS

U.S. Public Health Service

USPSTF

U.S. Preventive Services Task Force

VA

Veterans' Affairs

VCRP

Vision Conservation and Readiness Program

VETCOM

U.S. Army Veterinary Command

WEEL

workplace environmental exposure level

Section II

Terms

Acclimatization

Adaptation to a new environment or a change in the old environment.

Air pollution emission inventory

The measurement and documentation of actual and potential emission rates on installations for both criteria pollutants and hazardous air pollutants. These inventories are needed by installations for meeting regulatory agency annual emission reporting requirements; air permits; health risk assessments; annual fees; National Environmental Policy Act documents; general conformity; or emission reduction credits.

ARD (acute respiratory disease)

A flu-like illness with a fever of 100.5 degrees F or greater and any of the following symptoms: sore throat, cough, runny nose, chest pain, or generalized muscle aching. Infectious agents of greatest military significance include influenza, parainfluenza, adenoviruses, streptococci, and mycoplasmas.

Army personnel

As used in this publication, includes Active Army; Army National Guard/Army National Guard of the U.S and U.S. Army Reserve personnel on active duty or inactive duty for training status; U.S. Military Academy cadets; U.S. Army Reserve Officer Training Corps cadets, when engaged in directed training activities; other DOD and foreign national military personnel assigned to Army components; and civilian personnel and nonappropriated fund personnel employed by the Army worldwide. Except for those preventive medicine services defined in DODI 6055.1 for supporting DOD contractor personnel during OCONUS force deployments or specifically provided for in contracts between the Government and a contractor, Army contractor personnel are not included in this definition.

Augmentation response teams

Teams consisting of subject matter experts who are sufficiently trained and prepared to provide the appropriate level of response on order of Headquarters, Department of The Army Surgeon General/U.S. Army Medical Command, at the request of legitimate civil, Federal, or defense authorities. These teams provide short-duration medical augmentation to regional domestic, Federal and DOD agencies responding to disaster, civil-military, humanitarian, and emergency incidents.

BEIs® (biological exposure indices)

Guideline limits published by the American Conference of Governmental Industrial Hygienists for chemicals or their metabolites in biological specimens (urine, blood, exhaled air) collected from workers at specified intervals.

Benchmark

A standard of best practice against which performance is measured.

Biowarfare agents

Microorganisms (or toxins derived from them) that cause disease in man, plants, or animals, or that cause deterioration of material; have no justification for prophylactic, protective or other peaceful purposes; and are designed and intended for hostile use against men, animals, or plants.

Bloodborne pathogen

An infectious organism in the blood, of which the predominant medical interest is its contamination of blood-soiled linens, gowns, bandages, and other items from individuals in risk categories, needles and other sharp objects, and medical and dental wastes, all of which health workers are exposed to. This concept is differentiated from the clinical conditions of bacteraemia, viraemia, and fungaemia where the organism is present in the blood of a patient as the result of a natural infection process. Examples of such organisms include human immunodeficiency viruses and the hepatitis C virus.

Case management

All the activities that a physician or other health care provider normally performs to ensure the coordination of health services required by a patient. It also, when used in connection with managed care, covers all the activities of evaluating the patient, planning treatment, referral, and follow-up so that care is continuous and comprehensive and payment of the care is obtained.

Chemical warfare agent or chemical agent

A chemical substance intended for use in military operations to kill, seriously injure, or incapacitate people through its

physiological effects. Deny or hinder the use of areas, facilities, or materials; or defense against such use. Included are blood, nerve, choking, blister, and incapacitating agents. Excluded are riot control agents, chemical herbicides, and smoke and flame materials.

Chemoprophylaxis

In preventive medicine, the use of drugs, nutritional and mineral supplements, or other natural substances by asymptomatic persons to prevent future disease.

Climatic injury

Injury or illness from environmental extremes, such as heat, cold, and altitude.

Communicable disease

Illness due to a specific infectious agent, or its toxic products, that arises through transmission of that agent or its products from an infected person, animal, or inanimate reservoir to a susceptible host; either directly or indirectly through an intermediate plant or animal host, vector, or the inanimate environment. Synonymous with infectious disease.

Community health nurse

A registered nurse who has successfully completed a post-baccalaureate program of study that prepares the registered nurse to provide population-centered nursing services to individuals, families, and groups in the community including epidemiological and health promotion support.

Countermeasure

A barrier protecting, or contributing to the protection of, a soldier from disease or injury. Policy; doctrine; individual knowledge; tactics, techniques, and procedures; personal protective equipment; immunizations; chemoprophylaxis; and detectors are examples of preventive medicine countermeasures.

Cross connection

Any physical connection through which a supply of potable water could be contaminated or polluted or a connection between a supervised potable water supply and an unsupervised supply of unknown potability.

dBA

A measured sound spectrum that has been weighted to place less emphasis on low frequencies than on high frequencies because low-frequency sounds generally pose less risk for causing hearing loss than high-frequency sounds.

Deployment

Unless specifically defined differently by the commander/leader responsible for the mission at hand, a troop movement resulting from a Joint Chiefs of Staff/unified command deployment order for 30 or more consecutive days to a land-based location out of the continental U.S. that does not have a permanent U.S. military treatment facility (that is, funded by the Defense Health Program), and which may or may not be supported by deployed medical forces.

Director of health services

The principal medical advisor to the installation commander and staff on health care delivery matters, including installation and clinical preventive medicine programs and services for the installation commander's areas of responsibility. Commanders of MEDCENs and MEDDACs, as the local medical authority, either serve as the director of health services on the installation staff or, more commonly, appoint a representative.

Disease and non-battle injury

Preventable diseases and injuries that are not a result of hostile action by or against an organized enemy, but of non-battle conditions that render a soldier combat-ineffective. These diseases and injuries include infectious diseases, arthropod-borne diseases, food- and water-borne diseases, environmental injury/illness (heat, cold, altitude, toxic materials), and occupational injury/illness. Non-battle injuries include self-inflicted wounds and all injuries that occur during peacetime.

Drinking water surveillance

The monitoring, analysis, documentation, and reporting of drinking water quality.

Environmental Performance Assessment System (EPAS)

A system of external and internal multi-media assessments, oversight, programming, and technical support services to

assist Army commanders in attaining, sustaining, and monitoring compliance with Federal, state, and local environmental laws and regulations, as well as DOD and Army requirements; part of the Army Environmental Program.

Environmental restoration

The cleaning up of pollution from contaminated sites caused by past Army operations or waste disposal practices; part of the Army Environmental Program.

Ergonomics

The field of study that seeks to fit the job to the person, rather than the person to the job. This is achieved by the evaluation and design of workplaces, environments, jobs, tasks, equipment, and processes in relationship to human capabilities and interactions in the workplace.

Field sanitation team (FST)

At least two soldiers from a company or battery-sized unit who are appointed and trained to perform field sanitation activities for their unit. One of the team members must be a noncommissioned officer when organic medical personnel are not available. If available, one member should be a medic and the leader of the FST.

Hazard communication (HAZCOM)

A formal program mandated by Federal law to reduce occupational illness and injury resulting from chemical exposures. Employees must be informed of the identities and hazards of the chemicals with which they work by means of a written HAZCOM program, warning labels, and material safety data sheets. Employees must be trained regarding the measures for preventing chemical exposures and what to do if a spill or exposure occurs.

Hazardous material/waste

Solid material/waste, or a combination of material/waste (except those excluded in 40 CFR 261.4(b)), that because of its quantity, concentration, or physical, chemical, or infectious characteristics, may—

- a. Cause or significantly contribute to an increase in mortality or an increase in serious, irreversible or incapacitating, reversible illness.
- b. Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

Health hazard assessment

The application of biomedical knowledge and principles to document and quantitatively determine the health hazards of Army systems. This assessment identifies, evaluates, and recommends controls to reduce risks to the health and effectiveness of personnel who test, use, or service Army systems. This assessment includes—

- a. The evaluation of hazard severity, hazard probability, risk assessment, consequences, and operational constraints.
- b. The identification of required precautions and protective devices.
- c. Training requirements.

Health Hazard Assessment Program

One of the domains of the Army's Manpower and Personnel Integration (MANPRINT) Program. The Health Hazard Assessment Program, in support of the Army materiel acquisition decision process, exists to identify and eliminate or control health hazards associated with the life cycle management of new materiel and weapons systems. The Program focuses on potential health hazards from training, combat, maintenance, and disposal.

Health risk assessment

The identification and evaluation of a health hazard to determine the associated health risk (probability of occurrence and resulting outcome and severity) of potential exposure to hazard.

Hospital-acquired (nosocomial) infection

A localized or systemic condition that (1) results from adverse reaction to the presence of an infectious agent(s) or its toxin(s), and (2) was not present or incubating at the time of admission to a hospital.

Induration

A raised, abnormally hard spot or place, particularly of the tissue. In tuberculin skin testing, an induration is the firm, swollen area located at the site in which tuberculin antigen is injected just under the skin.

Industrial hygiene

The science and art devoted to anticipation, recognition, evaluation, and control of those environmental factors or

stresses, arising in or from the workplace, that may cause sickness, impaired health and well-being, or significant discomfort and inefficiency among workers.

Infectious disease

A disease resulting from the presence and activity of a microbial agent.

Installation environmental noise management plan

An installation plan to implement the Army Environmental Noise Management Program locally. The plan addresses the identification and mitigation of noise and vibration sources and environments; long-range installation land use planning; management of noise complaints; education of civilian and military communities; and coordination with planning and zoning officials to maintain compatible land use on and off the installation.

International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) code

The International Classification of Diseases, 9th Revision, Clinical Modification code: the official system of assigning codes to diagnoses and procedures associated with hospital utilization in the U.S. The ICD-9 code is used to classify mortality data from death certificates. The ICD-9-CM consists of a tabular numerical list of disease codes; an alphabetical index to the disease entries; and a classification system for surgical, diagnostic, and therapeutic procedures.

Ionizing radiation

Charged subatomic particles and ionized atoms with kinetic energies greater than 12.4 electron volt (eV), electromagnetic radiation with photon energies greater than 12.4 eV, and all free neutrons and other uncharged subatomic particles (except neutrinos and antineutrinos).

Material safety data sheet (MSDS)

A set of basic information on a particular material or chemical product. The information addresses properties and potential hazards, how to use the material or chemical safely, and what to do in case of an emergency.

Medical surveillance

The ongoing, systematic collection, analysis, and interpretation of medical data essential to evaluating, planning and implementing public health practice and prevention, closely integrated with the timely dissemination of these data to those who need to know. In particular, it means the medical data related to individual patient encounters and the summary of portions of the data in the calculation of DNBI rates for a defined population for the primary purposes of prevention and control of health and safety hazards.

Medical surveillance system

An integrated set of information management capabilities, information technologies, databases, and procedures for the collection, analysis, archiving, and dissemination of information in support of preventive medicine activities.

Military treatment facility

A civilian or uniformed services medical center, hospital, clinic, or other facility that is authorized to provide medical, dental, or veterinary care.

Morbidity

A diseased condition or state; the incidence of a disease or of all diseases in a population.

mSv

One-thousandth of a sievert, which is the international scientific unit or any of the quantities expressed as a dose equivalent. The dose equivalent in sieverts is equal to the absorbed dose in grays multiplied by the quality factor (1 Sv = 100 rem).

Nonionizing radiation

Electromagnetic radiation with photon energies less than 12.4 eV.

Occupational and environmental health

Human health issues impacted by hazardous materials, agents, organisms, or conditions found in a specific work environment or in the natural environment.

Occupational and environmental health threat

Any condition that could result in exposures of any Army personnel to chemical, biological, radiation and physical

hazards in any aspect of military operations in garrison and during deployments. In deployments, occupational and environmental health threats include, but are not limited to—

a. Accidental or deliberate release of non-weaponized toxic industrial materials (TIMs), hazardous physical agents, ionizing and nonionizing radiological hazards, as well as direct hazard effects from weaponized chemical/biological/radiological/nuclear/explosive (CBRNE) devices, and the residue from the use of CBRNE devices.

b. Environmental hazards to include physical hazards and vector- and arthropod-borne threats, residues, or agents, naturally occurring or resulting from previous activities of U.S. forces or other concerns, such as non-U.S. military forces, enemy forces, local national governments, or local national agricultural, industrial, or commercial activities.

c. The TIMs or hazardous physical agents, such as noise or ionizing and nonionizing radiation hazards, currently being generated as a by-product of the activities of U.S. forces or other concerns, such as non-U.S. military forces, enemy forces, local national governments, or local national agricultural, industrial, or commercial activities.

d. Combat and operational stress.

Packaged water

Potable water intended for human consumption and sealed in containers or packages with no added ingredients except that it may contain safe and suitable antimicrobial agents. In the military, packaged water is further defined as water that has been produced and packaged by the military for military use in field environments.

Palliative treatment

Treatment to relieve symptoms of a disease or injury, but not to cure it. Frequently takes the form of making the patient more comfortable through pain management.

Permissible exposure limit (PEL)

An 8-hour time-weighted average occupational health standard promulgated by the Occupational Safety and Health Administration to safeguard workers against dangerous contaminants in the workplace.

Personal protective equipment

Specialized clothing or equipment worn or used by an individual for protection against a hazard. General clothing (for example, uniforms, pants, shirts, blouses) not specifically intended to function as protection against a hazard is not considered to be personal protective equipment.

Personal protective measure

Individual tactics, techniques, procedures, and personnel equipment intended to protect an individual from disease or injury.

Pest

Arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, and other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, military operations, or the health and well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable.

Pollution prevention

Source reduction, as defined in the Pollution Prevention Act of 1990; and any other practice that reduces or eliminates the creation of pollutants through increased efficiency in the use of raw materials, energy, water, or other resources. Includes alternate processes, methods, and products that avoid, prevent, or reduce contaminant release to the environment.

Population health

The overall health status of a specified population, determined by a set of selected qualitative and quantitative health metrics. The aggregate health outcome of the health-adjusted life expectancy (quality and quantity) of a group of individuals, in an economic framework that balances the relative marginal return from the multiple determinants of health.

Potable water

Water that has been examined and treated to meet appropriate standards and declared fit for domestic consumption by an appropriate medical authority.

Qualified expert (radiation protection)

A person who, by virtue of training and experience, can provide competent authoritative guidance about certain aspects

of radiation safety. Being a qualified expert in one aspect of radiation safety does not necessarily mean that a person is a qualified expert in a different aspect (AR 11–9).

Radiation safety officer

The person that the commander designates, in writing, as the executive agent for the command's radiation safety program. Same as *radiation protection officer* or *health physics officer*.

Recreational waters

Swimming pools, spas and hot tubs, and natural bathing facilities established and operated by the Army.

Regulated medical waste

Wastes that are potentially capable of causing disease in man and may pose a risk to both individual or community health if not handled or treated properly. Sometimes called “infectious waste,” “biohazardous waste,” and “medical waste.” Consists of the following categories of wastes: cultures, stocks, and vaccines; pathological waste; blood and blood products; used and unused sharps; animal waste; isolation waste; and fluids designated by the local infection control authority.

Rem

A unit of any of the quantities expressed as a dose equivalent. The dose equivalent in rems is equal to the absorbed dose in rads multiplied by the quality factor (1 rem = 0.01 sievert).

Reportable Medical Events System (RMES)

Reportable Medical Events System; a personal computer-based system that provides the mechanism for preventive medicine and other medical personnel at military treatment facilities to record reportable medical event information and transmit that information to Army Medical Surveillance Activity for analysis, reporting, and integration into the Defense Medical Surveillance System database.

Reproductive hazard

A physical, chemical, biological, or radiological hazard that can adversely affect male and female reproductive systems as well as the health of fetuses.

Rheumatogenic

Capable of causing inflammation or pain in muscles, joints, or fibrous tissue. Commonly associated with strains of Group A streptococci, infections from which rheumatic fever can develop.

Risk communication

The exchange of information between interested stakeholders such as commanders or deploying personnel about the nature, magnitude, significance, and/or control of health risks during deployment. Risks and their management decisions must be credibly communicated to help ensure that messages are constructively formulated, transmitted, and received in a meaningful manner.

Risk management

The process of identifying, assessing, and controlling risks arising from operational factors and making decisions that balance risk cost with mission benefits.

Risk management plan

An installation plan required by the Clean Air Act to prevent accidental releases to the air of the hazardous substances listed in Section 112 of the Clean Air Act Amendments of 1990 and to control and mitigate the consequences of any such release.

Secondary prevention

Preventive medicine measures taken to identify and treat asymptomatic persons who have already developed risk factors or preclinical disease, but in whom the condition has not yet become clinically apparent. The aim of secondary prevention is to detect and correct departures from good health as early as possible; in other words, to reduce the prevalence of disease and injury.

Short-term exposure limit (STEL)

A supplementary standard to the permissible exposure limit (PEL), published by the Occupational Safety and Health Administration (OSHA), consisting of the maximum concentration of a chemical, published by OSHA, to which a worker may be exposed continuously for up to 15 minutes without danger to health or work efficiency or safety.

STELs are intended to provide guidance to protect workers from acute effects of substances whose primary toxic effects have been reported from high, short-term exposures of animals or humans.

Stress reaction (combat and operational)

Acute, debilitating mental, behavioral or somatic symptoms thought to be caused by operational or combat stressors that are not adequately explained by physical disease, injury, or preexisting mental disorder, and that can be managed with reassurance, rest, physical replenishment (hydration, food, hygiene, sleep), and activities that restore confidence.

Surety program

A specialized program of products and services designed to ensure that chemical or biological warfare materials, nuclear materials, or nuclear reactors are handled safely and securely and that personnel working with these materials are protected appropriately. An important component of a surety program is a personnel reliability program.

Sustainment training

Training beyond that which awards a military occupational specialty (MOS-producing training) and other training provided in U.S. Army Training and Doctrine Command schools.

Tertiary prevention

Preventive medicine measures taken that are part of the treatment and management of symptomatic persons with clinical diseases and injuries. The aim of tertiary prevention is to prevent further complications and reduce risk factors for continued deterioration of health.

Threshold limit value (TLV®)

The maximum concentration of a chemical recommended by the American Conference of Governmental Industrial Hygienists for repeated exposure without adverse effect on workers.

Total surveillance (incidence) rate

Number of new cases of a disease or injury occurring in the population during a specified period of time divided by the number of persons exposed to risk of developing the disease or injury during that period of time.

Travel medicine

Preventive medicine services provided to personnel traveling or residing outside the United States, especially in developing countries. Services include medical advice, medical record review, screening tests, immunizations, chemoprophylaxis, and personal protective measures.

Vector

An organism, such as an insect or animal, that can transmit pathogens.

WEEL (workplace environmental exposure level)

An 8-hour time-weighted average chemical concentration published by the AIHA for workplace exposure limits for chemicals not addressed by the Occupational Safety and Health Administration, the National Institute for Occupational Safety and Health and other organizations that develop recommended workplace exposure guidelines.

Work/rest cycle

A pattern of wake, sleep, and work hours. Control of this pattern through administrative guidelines and training, monitoring of work/rest cycles, monitoring the onset of fatigue, and work and sleep rules is intended to reduce inadvertent or unintentional fatigue factors.

Section III

Special Abbreviations and Terms

This section contains no entries.

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