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Tactical Doctrine

PREVENTIVE AND AEROSPACE MEDICINE (PAM) TEAM

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The Air Force Tactics, Techniques, and Procedures (AFTTP) 3-42 series of publications is the primary reference for expeditionary medical support capability. AFTTP 3-42.23 provides tactics, techniques, and procedures (TTP) for the following unit type codes (UTCs):

FFPM1, PAM Team 1

FFPM2, PAM Team 2

FFPM3, PAM Team 3

FFPM4, PAM Advanced Echelon (ADVON) Equipment

FFPM5, PAM Sustainment Equipment

FFPM6, PAM Counter-Chemical, Biological, Radiological, and Nuclear (CBRN) Team

FFPM7, PAM Counter-CBRN Equipment

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SUMMARY OF CHANGES

This publication introduces the PAM Counter-CBRN UTCs, FFPM6 and FFPM7. These UTCs replace FFGL1, Medical Bioenvironmental Engineering Nuclear, Biological, and Chemical (NBC) Team, and FFGL7, Medical Bioenvironmental Engineering NBC Equipment, in the Air Force inventory. These UTCs can be used to augment and expand the PAM team's existing medical CBRN defense capabilities. This publication has been substantially revised and should be completely reviewed.

Chapter 1

INTRODUCTION

1.1. Purpose. This publication provides the tactics, techniques, and procedures (TTP) for the Preventive and Aerospace Medicine (PAM) team. It implements the preventive medicine guidance defined in AFTTP 3-42.2, *Health Service Support Casualty Prevention for Expeditionary Operations*, AFTTP 3-42.7, *Aerospace Medical Contingency Ground Support System*, and FM 4-02.7/MCRP 4-11.1F/NTTP 4-02.7/AFTTP 3-42.3, *Multiservice Tactics, Techniques, and Procedures for Health Service Support in a Chemical, Biological, Radiological, and Nuclear (CBRN) Environment*. It describes the PAM team's capabilities and provides a source document for developing standardized policies, operating procedures, training programs, and allowance standards (AS). Operation plans (OPLANs) and regional guidance provide more specific information that amplify and tailor the guidance contained in this publication.

1.2. Background. The PAM team works to prevent occupational, environmental, and public health risk factors from having a detrimental impact on mission effectiveness. The team provides a broad portfolio of preventive medicine and medical counter-CBRN capabilities that can be scaled and tailored based on the deployed location's expected threat and operational needs. PAM assets are structured to ensure they can be deployed quickly to support joint task force (JTF), agile combat support (ACS), or lead mobility wing (LMW) agencies with food and water safety, field sanitation, occupational and environmental health (OEH) risk assessments, CBRN health assessments, and waste management during site selection and setup.

1.2.1. Disease and Injury Management. Disease and injury induced by operational conditions are a consistent threat to Air Expeditionary Forces (AEFs). Health threats include endemic disease as well as OEH hazards associated with the movement, billeting, and activities of large numbers of military personnel working in field conditions. The PAM team is responsible for implementing preventive medicine and medical counter-CBRN measures, measuring and assessing exposures, and recommending strategies to minimize these threats.

1.2.2. CBRN Threat. The release of a CBRN agent has the potential to significantly burden or overwhelm medical assets. These agents can cause early clinical symptoms that mimic routine medical conditions and delay detection. Platforms and materiel may become contaminated and present a health risk to personnel or cross-contamination risk. Based in part on lessons learned from Operation TOMODACHI in 2011 as well as U.S. and international industrial standards and best practices, the Department of Defense has identified criteria to promote health and safety and ensure the freedom of transit of platforms and materiel. The PAM team supports an overarching and robust CBRN response force health protection mission focused on casualty prevention through passive defense, surveillance, detection, identification, quantification, field confirmation, consequence management, platform clearance, and recovery.

Chapter 2

CAPABILITIES

2.1. Mission. The PAM team provides preventive medicine and medical counter-CBRN services to identify, quantify, prevent, monitor, and treat disease and injury and prevent acute or chronic health hazards resulting from operations in deployed environments. They conduct health hazard surveillance, provide commanders with balanced risk assessments and management options, and implement measures to protect personnel.

2.1.1. Health Risk Assessment (HRA) and Management. HRAs evaluate such factors as local food and water safety and vulnerability, disease vectors, threats from local plants and wildlife, local medical capabilities, and possible contamination sources. They also evaluate threats from toxic industrial chemical (TIC), toxic industrial material (TIM), CBRN, and OEH exposures. The PAM team is responsible for health risk communication before, during, and after deployments and for providing commanders with recommended courses of action.

2.1.2. Health Hazard Surveillance. The PAM team conducts on-going health hazard surveillance to identify exposures and potential health risks and enable timely interventions. Activities include the collection and analysis of OEH data, disease monitoring, food and water safety, CBRN surveillance, and disease outbreak investigation. During sustainment operations, the team conducts OEH, CBRN, and facility sanitation assessments. Health surveillance data is tracked in the appropriate OEH management information system (OEH-MIS) and reported weekly to the JTF Surgeon (JTF/SG), Air Force Forces Surgeon (AFFOR/SG), and Theater Epidemiology Team (TET) in accordance with (IAW) theater policy.

2.1.3. Health Hazard Control and Mitigation. The PAM team provides clinical, OEH, preventive medicine, and primary care capabilities to prevent, diagnose, and treat illness and injuries caused by hazardous occupational, environmental, or CBRN exposures. Disease prevention and control measures include education and training, immunizations, prophylactic medications, and use of personal protective equipment (PPE). Bioenvironmental engineering (BE) personnel design OEH and CBRN controls and protective measures. Public health personnel provide recommendations on infectious disease management and restriction of movement procedures.

2.1.4. CBRN Defense. The PAM team provides medical CBRN defense capabilities scaled to the threat environment. They are responsible for CBRN HRAs based on available data from medical surveillance, patient treatment, civil engineer (CE) reconnaissance teams, and other medical and intelligence sources. They conduct CBRN surveillance, identify, collect, and analyze samples, and recommend force health protection measures. **Note**: If threat conditions warrant, additional medical CBRN defense capabilities may be added. See **Chapter 6** for more information about the Air Force Medical Service (AFMS) CBRN Defense Force Package.

2.2. Personnel. The PAM team includes the following core personnel and augmentation unit type codes (UTCs). The team is scalable and tailorable based on the threat and operational needs. See **Chapter 3** for more information on deployment scenarios.

2.2.1. FFPM1, PAM Team 1. FFPM1 provides initial public health and OEH assessment, surveillance, intervention, and abatement. The team provides medical support planning and input into site selection and layout of facilities. The aerospace medicine specialist and independent duty medical technician (IDMT) provide preventive medicine and limited clinical services for up to 500 personnel. Public health personnel provide food safety and vulnerability assessments, field sanitation and hygiene, and infectious disease control. BE personnel provide TIC/TIM vulnerability assessments, water safety and vulnerability assessments, OEH assessment and surveillance, and limited CBRN defense. **Table 2.1** provides the manpower detail.

Table 2.1. FFPM1 Manpower Detail.

AFSC	Title	Grade	Quantity
048A3	Aerospace Medicine Specialist	05	1
043E3A	Bioenvironmental Engineer (BEE)	04	1
043H3	Public Health Officer (PHO)	04	1
4N071C	Aerospace Medical Service Craftsman, IDMT		1
			Total: 4
Note: Air Force Specialty Code (AFSC), grade, and skill-level substitutions are IAW the *War and Mobilization Plan, Volume 1 (WMP-1), Air Force Medical Service (AFMS) Supplement*, AFI 10-403, *Deployment Planning and Execution*, and the mission capability (MISCAP) statement.			

2.2.2. FFPM2, PAM Team 2. FFPM2 provides BE and public health personnel augmentation for FFPM1. **Table 2.2** provides the manpower detail.

Table 2.2. FFPM2 Manpower Detail.

AFSC	Title	Grade	Quantity
4B071	BE Craftsman		1
4E071	Public Health Craftsman		1
			Total: 2
Note: Air Force Specialty Code (AFSC), grade, and skill-level substitutions are IAW the *War and Mobilization Plan, Volume 1 (WMP-1), Air Force Medical Service (AFMS) Supplement*, AFI 10-403, *Deployment Planning and Execution*, and the mission capability (MISCAP) statement.			

2.2.3. FFPM3, PAM Team 3. FFPM3 provides BE and public health augmentation for FFPM1 and FFPM2. **Table 2.3** provides the manpower detail.

Table 2.3. FFPM3 Manpower Detail.

AFSC	Title	Grade	Quantity
4B051	BE Journeyman		2
4E051	Public Health Journeyman		1
			Total: 3

AFSC	Title	Grade	Quantity
Note: Air Force Specialty Code (AFSC), grade, and skill-level substitutions are IAW the *War and Mobilization Plan, Volume 1 (WMP-1), Air Force Medical Service (AFMS) Supplement*, AFI 10-403, *Deployment Planning and Execution*, and the mission capability (MISCAP) statement.			

2.2.4. FFPM6, PAM Counter-CBRN Team. FFPM6 provides BE augmentation for CBRN defense, consequence management, and recovery activities at a deployed location. The team conducts CBRN surveillance, performs HRAs, and advises commanders on CBRN health effects, threat impact, protective action posture, and recovery activities. The team performs environmental sampling, analysis, and monitoring for force health protection purposes and participates in the confirmatory identification process for suspected biological threat agents (BTA). The team monitors and documents personnel exposures to CBRN agents, supports decision-making on PPE donning and doffing (de-MOPPing and de-masking), and performs chemical, biological, and radiological clearance missions. The team can augment FFPM1-FFPM3 to provide more robust surveillance capabilities at a single operating location or more limited CBRN defense for up to three dispersed locations. **Note**: This UTC replaces FFGL1, Medical Bioenvironmental Engineering Nuclear, Biological, and Chemical (NBC) Team, in the Air Force inventory.

Table 2.4. FFPM6 Manpower Detail.

AFSC	Title	Grade	Quantity
043E3A	Bioenvironmental Engineer	03	1
4B071	BE Craftsman		1
4B051	BE Journeyman		4
			Total: 6
Note: Air Force Specialty Code (AFSC), grade, and skill-level substitutions are IAW the *War and Mobilization Plan, Volume 1 (WMP-1), Air Force Medical Service (AFMS) Supplement*, AFI 10-403, *Deployment Planning and Execution*, and the mission capability (MISCAP) statement.			

2.3. Equipment. The following equipment UTCs support the PAM team. FFPM4 and FFPM5 are part of the initial deployment and can be augmented depending on mission requirements and threat. FFPM7 is deployed under moderate to high CBRN threat conditions, as warranted. See **Chapter 3** for more information on deployment scenarios. The AS provides a current list of equipment included in each UTC. See **Chapter 9** for more information on logistics.

2.3.1. FFPM4, PAM Advanced Echelon (ADVON) Equipment. The FFPM4 man-portable field packs provide equipment and supplies for initial clinical care, OEH sampling, food and water safety inspections, and basic hazard/CBRN identification. Based on the mission and mode of transportation, team members may be required to travel with their field packs and hand-carry them to the employment site.

2.3.2. FFPM5, PAM Sustainment Equipment. FFPM5 provides sufficient equipment and supplies to sustain clinical, primary care, preventive medicine, OEH, and medical counter-CBRN operations for 30 days. It includes a single-skin, quick-erect shelter system.

2.3.3. FFPM7, PAM Counter-CBRN Equipment. FFPM7 provides supplemental CBRN sampling and analysis equipment for deployed locations with a moderate to high CBRN threat. Deployment with the appropriate collective protection (CP) equipment package is recommended. See AFTTP 3-42.71, *Expeditionary Medical Support (EMEDS) and Air Force Theater Hospital (AFTH)*, for more information on CP capabilities. **Note**: This UTC replaces FFGL7, Medical Bioenvironmental Engineering NBC Equipment, in the Air Force inventory.

Chapter 3

OPERATIONS

3.1. Pre-Deployment. PAM teams with assigned equipment UTCs must inventory, set up, and operationally test their equipment annually IAW AFI 41-106, *Medical Readiness Program Management.* All team members must be fully qualified before deployment. The PHO and BEE should be informed of the deployment location as soon as possible to prepare medical intelligence and initiate the occupational and environmental health site assessment (OEHSA) and CBRN assessment. Team members should work closely with the medical readiness office, emergency management (EM), and theater medical personnel to prepare for deployment. They should review OPLANs, reporting instructions, threat and vulnerability assessments, intelligence reports, and other pertinent deployment data.

3.2. Deployment. PAM personnel and equipment UTCs provide an incremental buildup of capability based on the mission, population at risk (PAR), and threat environment as shown in **Table 3.1**. PAM UTCs typically deploy with an EMEDS package, but some components can deploy as a stand-alone team under a JTF. FFPM1 provides the core preventive medicine, BE, and public health support and is generally the first medical presence at the beddown location. The team deploys as early as possible to assist expeditionary combat support (ECS) units in site selection to ensure that OEH factors are taken into account. They deploy with man-portable field packs and can provide initial medical capability within 15 minutes of arrival. Augmentation UTCs are operation dependent. FFPM2 and FFPM3 provide additional BE and public health personnel to support a larger PAR or threat scenario. FFPM6 and FFPM7 provide CBRN defense augmentation for moderate to high-threat operating locations. The full PAM team (FFPM1-FFPM7) provides a robust surveillance capability. In a distributed operating environment, PAM Counter-CBRN personnel may divide into smaller teams to provide limited CBRN defense for up to three dispersed locations (e.g., a center hub and two satellite locations). They can forward deploy with hand-held or backpack equipment to support forward locations. The PAM Counter-CBRN team can reach initial operational capability (IOC) within 8 hours of arrival and reach full operational capability (FOC) within 24 hours of arrival. See **Attachment 6** for more information on IOC and FOC parameters.

Table 3.1. Operational Buildup.

Role	UTC	Tasking
Core Capability	FFPM1, PAM Team 1 FFPM4, ADVON Man-Portable Equipment FFPM5, Sustainment Equipment	• Part of EMEDS Health Response Team (HRT) core capability • Can deploy as a stand-alone team under a JTF to support a PAR of up to 500

Role	UTC	Tasking
Personnel Augmentation	FFPM2, PAM Team 2	• Augments FFPM1 at an EMEDS location or JTF • Can be added at the EMEDS HRT or EMEDS+10 level, depending on mission requirements
	FFPM3, PAM Team 3	• Augments FFPM1 and FFPM2 at an EMEDS location or JTF • Part of EMEDS+10 core capability
CBRN Defense Augmentation	FFPM6, PAM Counter-CBRN Team FFPM7, PAM Counter-CBRN Equipment	• For moderate to high CBRN threat environments • Can augment FFPM1-FFPM3 at an EMEDS location or JTF

3.3. Employment. The PAM team is led by an aerospace medicine specialist with a residency in aerospace medicine (RAM). The RAM and IDMT provide initial, limited medical care pending the arrival of additional EMEDS providers. The BEE is responsible for OEH exposure surveillance, health risk assessments, medical CBRN response, water quality monitoring, and OEH compliance IAW theater surgeon policy. The PHO is responsible for OEH illness surveillance, epidemiology, and initial food protection assessment and provides input on site assessments and health risk assessments. The PHO serves as the local medical intelligence officer. The RAM, BEE, and PHO are members of the Antiterrorism Working Group (ATWG) and Threat Working Group (TWG), which are responsible for coordinating the medical response to CBRN events.

3.3.1. RAM Tasks. The RAM is the chief advisor to the deployed expeditionary unit commander and wing staff on aerospace medicine issues. The RAM performs the following key functions:

3.3.1.1. Establish first contact with local, joint, coalition, and host nation health care authorities to arrange cross-coverage, evacuation, and referral procedures.

3.3.1.2. Assess local medical capabilities.

3.3.1.3. Work with public health to validate medical intelligence, assess local disease threats, and analyze weekly disease reports.

3.3.1.4. Establish access to the aeromedical evacuation (AE) system and serve as the AE consultant to the deployed expeditionary unit commander.

3.3.1.5. Recommend and implement medical countermeasures to disease and CBRN threats.

3.3.1.6. Assess medical aspects of OEH risk exposures and recommend controls and surveillance measures (including baseline reviews and occupational illness and injury investigations) in conjunction with BE and public health.

3.3.1.7. Conduct on-site OEH surveys with BE and public health.

3.3.1.8. Assume functional leadership of squadron medical elements (SMEs).

3.3.1.9. Serve as the local point of contact for the theater AFFOR command surgeon on flight medicine policy.

3.3.1.10. Provide medical input to the base support plan and develop local plans for aircraft mishap response and mass casualty response.

3.3.1.11. Work with BE and public health to accomplish site surveys for EMEDS facilities.

3.3.1.12. Brief operations group and squadron commanders on aeromedical safety concerns such as circadian rhythms and fatigue, G-tolerance, and heat and cold stress.

3.3.2. IDMT Tasks. The IDMT performs patient examination and treatment at remote sites and deployed locations in the absence of an assigned licensed provider within the scope of care defined in AFI 44-103, *The Air Force Independent Duty Medical Technician Program*.

3.3.2.1. BE Support. The IDMT may assist BE with the following functions: medical investigation of occupational illnesses and injuries; hazard communication (HAZCOM) programs; workplace surveillance data management; water collection and treatment (e.g., water chlorine residual, pH, and bacteriological testing); and CBRN testing under direct supervision of the BEE.

3.3.2.2. Public Health Support. The IDMT may assist public health with the following functions: epidemiology; medical entomology; food safety programs and inspections; rabies control; health and hygiene inspections of public gathering places and local billeting facilities; communicable disease prevention and monitoring; vulnerability assessments and site surveys; environmental risk assessments; evaluation of local medical facilities; and risk assessments of disease vectors and pests.

3.3.3. BE Tasks. BE provides expertise in health hazard surveillance; sampling, identification, quantification, assessment, analysis, and control of OEH and CBRN threats; risk communication; real-time CBRN response; documentation of potential exposures; and comprehensive potable and non-potable water safety. BE is responsible for the following overarching tasks. See **Attachment 7** for a summary of CBRN defense related tasks.

3.3.3.1. Environmental Health Hazard Assessments. Conduct water and TIC/TIM vulnerability assessments IAW theater policy. Develop surveillance strategies based on threats, force protection conditions, and intelligence reviews in partnership with joint force and line counterparts. Provide recommendations to improve the survivability of key assets to commanders and the ATWG and TWG, as appropriate.

3.3.3.2. Site Assessment and Selection. Work with commanders in the selection of the beddown site and layout of operations. Evaluate and integrate intelligence and vulnerability assessment data to validate actual or potential health threats, determine exposure pathways, and determine appropriate courses of action and countermeasures. Identify local or regional sources of pollution and test for evidence of field and workplace contamination. Collect environmental samples (e.g., soil, air, water, vegetation) in support of the OEHSA. Document potential hazards and exposures to establish a health risk baseline.

3.3.3.3. Predictive Exposure Assessments. Work with EM to predict personnel exposures from CBRN incidents and threats, TIC/TIM releases, industrial operations, and field sanitation conditions. Provide flexible and sustainable force health protection recommendations to predict and reduce adverse health effects. Use modeling and mapping tools to predict concentrations, contamination plumes, and persistency rates from a TIC/TIM or CBRN incident. Examples of these tools include CBRN Health Assessment and Risk Tool (CHART), Chemical Hazard Estimation Method and Risk Assessment Tool (CHEMRAT), Joint Effects Model (JEM), and plots documented in AFTTP 3-2.56, *Multiservice Techniques and Procedures for Chemical, Biological, Radiological, and Nuclear Contamination Avoidance*. Sampling data should be used to validate or refine the predictions. Brief findings and recommendations to commanders and the ATWG/TWG, as appropriate.

3.3.3.4. Water Quality and Safety. Implement water quality sampling, system analysis, field sanitation assessments, and monitoring procedures to ensure safe potable and non-potable water IAW theater commander and theater surgeon policy and geographically specific threat conditions. Identify safe sources and treatment processes for potable and non-potable water. Work closely with the U.S. Army Public Health Center and Force Support to ensure all bottled water sources are approved, sampled, monitored, and properly stored. If necessary, approve temporary drinking water sources (e.g., bottled water) in cases where no pre-approved water source is available.

3.3.3.5. Incident Response. Provide real-time CBRN response through surveillance, risk assessment, decision support, protective measures, and sample preservation while operating in cold, warm, and hot zones. Provide commanders with an HRA and appropriate risk communication. Assist and advise on identification, monitoring, and contamination control actions. Conduct quantitative analysis of CBRN agents. Perform soil, water, and air sampling and assess the effectiveness of contamination control measures. Assist commanders and emergency services with contingency response planning, response, and recovery. Provide decontamination teams with recommendations on proper decontaminants and disposal procedures.

3.3.3.6. Health Risk Assessments and Management. Anticipate, identify, assess, and document health threats and develop controls and countermeasures. Provide commanders with recommendations on risk factors and implementation of controls to mitigate unavoidable OEH and CBRN threats. Evaluate data from OEH site assessments, preliminary hazard assessments (PLHAs), industrial hazard assessments, environmental baseline surveys, health surveillance activities, medical intelligence products, lessons learned, and other available data for the deployment area.

3.3.3.7. Personnel Exposure Monitoring. Document personnel OEH and CBRN exposures in the OEH-MIS. Provide commanders with HRAs on deployment-specific exposures and recommendations on associated controls. Monitor work areas and personnel involved with the storage, use, and disposal of ionizing and non-ionizing radiation sources and generation devices.

3.3.4. Public Health Tasks. Public health provides expertise in food protection; sanitation; communicable disease surveillance and mitigation; outbreak investigation; vector surveillance,

disease testing, and mitigation; injury surveillance and education; and medical intelligence. Public health is responsible for the following tasks.

3.3.4.1. Site Selection. Provide site commanders with recommendations on site selection and preparation based on the potential for public health threats and sanitation concerns. Coordinate recommendations with CE as applicable. Provide BE with consultation and support for OEHSA development.

3.3.4.2. Medical Intelligence and Disease Surveillance. Monitor local disease threats to include trends in outbreaks, identify and report changes in disease threat, and provide recommendations on preventive measures. Develop and maintain a disease and injury surveillance system, identify vector-borne disease potential, and implement proper preventive measures. Monitor for compliance with preventive measures.

3.3.4.3. Food Protection. Coordinate with Force Support, Security Forces, Office of Special Investigations (OSI), and other responsible agencies to ensure food is procured from safe sources. Conduct food facility inspections to ensure food is properly stored, prepared, and handled IAW AFI 48-116, *Food Safety Program*. Inspect and approve local food establishments not listed in the Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement when requested by the installation commander.

3.3.4.4. OEH Prevention. Work with BE to develop and maintain OEH prevention programs (including hearing conservation). Investigate potential occupational related illnesses and injuries and recommend appropriate preventive actions.

3.3.4.5. Health Education and Consultation. Provide health education and consultation on disease and injury prevention topics such as field sanitation and hygiene, local disease and environmental threats and countermeasures, PPE, heat and cold stress, and food safety and security.

3.3.4.6. Contagious Casualty Management. Public health personnel are responsible for recommending initial infectious disease control measures. If the PAM team is deployed as a stand-alone team, the team chief should coordinate with the expeditionary wing commander on isolation space for contagious casualties and restriction of movement IAW AFI 10-2519, *Public Health Emergencies and Incidents of Public Health Concern*. The AFFOR/SG makes the determination on whether to move contagious patients or isolate and treat in-place. Public health technicians are responsible for verifying the immunization status of personnel.

3.3.4.7. Outbreak Investigation. Conduct epidemiological investigations of food-borne illness, communicable disease, and vector-borne disease outbreaks. Recommend measures to mitigate the outbreak and prevent future occurrences.

3.3.5. Reporting Responsibilities. The PAM team is responsible for recording and tracking patient encounters, OEH exposures, and health surveillance data IAW DODI 6490.03, *Deployment Health*, DODI 6055.05, *Occupational and Environmental Health (OEH)*, and theater surgeon policy. The Theater Medical Information Program – Air Force (TMIP-AF) provides the electronic system of record for reporting this data. See **Chapter 5** for more information on TMIP-AF.

3.4. Redeployment. The PAM team provides health service support during the ramp-down phase and is generally one of the last Air Force medical assets redeployed. If applicable, PAM team members should establish contact with their replacement teams and provide operational plans and status reports to ensure continuity. Team chiefs are responsible for ensuring that custody of equipment is signed over to the transportation officer. Before departure, team chiefs should provide the AFFOR/SG with shipment status and a copy of the shipping documents. Team chiefs should submit after-action reports and lessons learned IAW AFI 10-204, *Participation in Joint and National Exercises,* and AFI 90-1601, *Air Force Lessons Learned Program*.

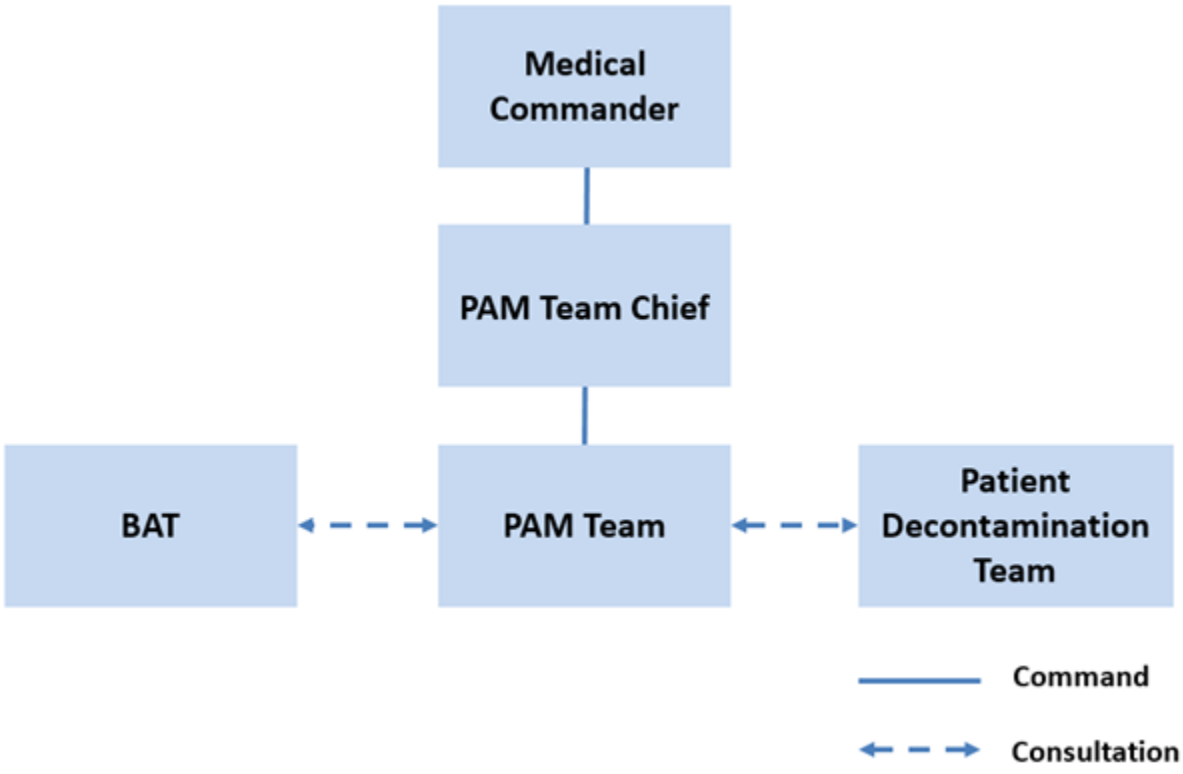
Chapter 4

COMMAND AND CONTROL (C2) RELATIONSHIPS

4.1. C2 of Medical Teams. The chain of command for expeditionary medical units is through line of the Air Force (LAF) commanders. Air Force elements deployed into a theater are typically aligned under the command of the Commander, Air Force Forces (COMAFFOR). The COMAFFOR exercises administrative control (ADCON) responsibilities for assigned and attached Air Force forces IAW Air Force Doctrine Volume 3, *Command.* Expeditionary medical teams normally operate under the local direction of the deployed expeditionary unit commander (usually the EMEDS or AFTH commander). Deploying personnel should receive a chain of command briefing before deployment.

4.2. PAM Team Command Structure. The PAM team is normally assigned to the senior medical commander at the employment location. The PAM team's senior officer (usually the RAM) is the team chief. When deployed to a CBRN threat environment, the PAM team closely coordinates with other AFMS CBRN defense teams such as the Biological Augmentation Team (BAT) and Patient Decontamination team. The team may also directly support sister service equivalents. **Figure 4.1** provides a notional command structure.

Figure 4.1. Notional Command Structure.



4.3. Squadron Medical Elements (SME). SME flight surgeons assigned to the medical facility remain under the command of their squadron commanders but are functionally supervised by the

RAM. The RAM coordinates their interaction with the medical group and other components of the theater medical system.

4.4. Global Reach Laydown (GRL) Team. When tasked, the GRL team deploys with the contingency response group (CRG) to provide initial force protection and clinical support during the rapid opening of contingency airfields. During the deployment, the team remains under Air Mobility Command (AMC) command. The GRL team usually arrives before the PAM team and redeploys with the CRG. The PAM team should work closely with the GRL team during the transition for turnover of information and surveillance data.

Chapter 5

COMMUNICATIONS AND INFORMATION SYSTEMS

5.1. Communications Requirements. The PAM team deploys with DOD-approved land mobile radios, satellite phone, and computer systems. The team is not equipped with the communications infrastructure needed for independent operation and relies on the host base's communications units for support. The PAM team requires access to the Defense Switched Network (DSN), secure voice communications, Non-classified Internet Protocol Router Network (NIPRNET), and Secret Internet Protocol Router Network (SIPRNET). DSN modem access is required to forward medical epidemiological information to the JTF/SG, AFFOR/SG, and TET. The PAM team requires access to a classified computer system to complete the classified portions of the vulnerability assessments and other classified documents. See Attachment 5 for more information on communications requirements.

5.2. Computer Systems. Computers issued to the PAM team include the DOD Standard Desktop Configuration (SDC) and TMIP-AF. The computers also contain software required for operation of the team's health surveillance equipment. Substitution of other laptops is not authorized.

5.2.1. Theater Medical Information Program – Air Force (TMIP-AF) Applications. The TMIP-AF software image contains the Joint Operational Medicine Information Systems (JOMIS) applications tailored for the Air Force to support healthcare delivery in theater and provide the combatant commands with critical, decision-making information. It includes applications for electronic health record (EHR) management, exposure tracking and surveillance, medical logistics, and medical C2 functions. Contact the Chief Information Officer (CIO), major command (MAJCOM), or Manpower and Equipment Force Packaging (MEFPAK) Responsible Agency (MRA) for the current list of applications included in TMIP-AF.

5.2.2. Specialty-Specific Applications. In addition to the medical applications included in TMIP-AF, PAM teams may have access to the specialty-specific applications listed in **Table 5.1**.

Table 5.1. Specialty-Specific Applications.

Application	Purpose	Availability
Aeromedical Services Information Management System (ASIMS)	Immunization tracking	Web application
Air Force Disease Reporting System internet (AFDRSi)	Reportable medical events tracking and reporting	Web application
Corporate Dental Application (CDA)	Electronic dental record Note: CDA is a U.S. Army Dental Command application.	Web application
Defense Blood Standard System (DBSS)	Blood operations	Web application
Medical Situational Awareness in the Theater (MSAT)	Medical surveillance	SIPRNET system

Spectacle Request Transmission System (SRTS)	Optometry services	Locally installed
Transportation Command Regulating and Command and Control Evacuation System (TRAC2ES)	Medical regulating and patient movement tracking	Web application
Note: Locally installed applications come pre-installed and configured on laptops. Web-based applications are accessed through a web browser, and laptops might include a desktop shortcut.		

5.3. Information Assurance (IA) Policy. PAM personnel must understand and follow IA procedures, to include communications security (COMSEC) and computer security (COMPUSEC), IAW AFI 17-130, *Cybersecurity Program Management,* AFMAN 17-1301, *Computer Security (COMPUSEC),* and associated Air Force IA guidance. Deploying personnel must have current Air Force IA certification or complete refresher training.

5.4. Tactical Communications. The PAM team should establish mobile communications with EM, the emergency operations center (EOC), and other DOD or partner response teams to properly coordinate surveillance activities and establish rapid reporting protocols. The teams should agree on radio call signs and code words during the preparation phase.

Chapter 6

INTEGRATION AND INTEROPERABILITY

6.1. Integration and Interoperability with Other Systems. Deployed medical personnel in a theater or area of operation may support elements of an AEF, components of the AE system, joint medical counterparts, Special Operations Forces (SOF), and other federal and civilian agencies. In some instances, theater planners may request medical support for beddown locations not associated with a typical AEF or ECS/base operating support (BOS) infrastructure.

6.2. Expeditionary Medical Support (EMEDS) Integration. In AEF missions, the PAM team is integrated into the EMEDS package and works for the EMEDS commander. All EMEDS personnel provide cross-functional support. The RAM augments primary care services at the facility and helps develop the mass casualty response plan. The IDMT provides clinical support as needed. Other PAM team members support their assigned disaster response roles as determined by the EMEDS commander. If a Collectively Protected EMEDS (CP-EMEDS) is deployed, the PAM team works with medical logistics personnel to ensure CP capability is maintained.

6.3. Air Force Medical CBRN Defense Force Module. The PAM Counter-CBRN team may deploy as part of the AFMS CBRN Defense Force Module. This force module is a grouping of manpower and equipment UTCs that provide a scalable, tailorable medical CBRN defense and response capability for beddown locations in a moderate to high-threat environment. It provides a robust portfolio of installation-level response, agent identification, agent quantification, analysis, infectious disease support, and patient decontamination. **Table 6.1** lists the UTCs included in the force module.

Table 6.1. AFMS CBRN Defense Force Module.

UTC	Title	Reference
Core Package		
FFPM6	PAM Counter-CBRN Team	AFTTP 3-42.23
FFPM7	PAM Counter-CBRN Equipment	AFTTP 3-42.23
FFBAT	BAT	*Air Force Medical Concept of Operations (CONOPS) for the Biological Augmentation Team (BAT)*
FFBA1	BAT Equipment	BAT CONOPS
FFGLB (x2)	Patient Decontamination Team	AFTTP 3-42.33, *Expeditionary Medical Decontamination Team*
FFGLC	Patient Decontamination Equipment	AFTTP 3-42.33
Augmentation Package		
FFCCM	Contagious Casualty Management	AFTTP 3-42.22, *Contagious Casualty Management*
FFHA2	Infectious Disease Team	AFTTP 3-42.22

6.4. Air Force Medical Theater-Level CBRN Defense Assets. The Air Force Radiation Assessment Team (AFRAT) and TET are theater-level assets that may be co-located with a PAM or EMEDS team. They are generally tasked with area support responsibilities. They may work

collaboratively and consult with the PAM team and other components of the AFMS CBRN Defense Force Module that are providing installation-level support.

6.5. Collaboration with CBRN Response Teams. During an incident response, the PAM team may work with other AFMS CBRN defense teams, EM, and reconnaissance teams to gather information needed to assess the vulnerability of critical assets, identify potential health risks to personnel, identify pathways of exposure, and implement protective measures. The PAM Counter-CBRN team is equipped to provide decision-making support on PPE donning and doffing (de-MOPPing, de-masking) and chemical, biological, and radiological platform clearance support. They may also assist in conducting quantitative assessments of potentially contaminated areas. The PAM team chief advises commanders and the EOC on contamination avoidance measures, such as collective protection, individual protection, fixed facilities, vaccines, prophylaxis, therapeutics, and exposure assessment.

6.5.1. CBRN Confirmation Support. The PAM team can perform field analysis of CBRN agents and field confirmation of chemical and radiological agents. This information is used by commanders to make operational risk management decisions and may be used by other agencies and higher headquarters to help confirm a CBRN attack. Medical data is not used alone to determine a CBRN attack. Field samples are sent to the designated reference laboratory (e.g., United States Air Force School of Aerospace Medicine [USAFSAM], United States Army Medical Research Institute of Infectious Diseases [USAMRIID]) in the continental United States (CONUS) for further testing. BE personnel rely on the reference laboratory and co-located BAT personnel (if applicable) for technical advice and assistance in shipping samples.

6.5.2. Biological Augmentation Team (BAT) Collaboration. The PAM team works closely with the BAT on field confirmation of BTAs and biological contamination clearance support. The two teams will be co-located when deployed together. See Attachment 8 for a notional site layout.

6.5.3. Patient Decontamination Consultation. The PAM team may provide consultation and technical support to the patient decontamination team. The PAM team can provide information on CBRN agent concentrations, persistency, physical characteristics, chemical characteristics, and other information to assist the team in establishing effective decontamination procedures.6.5.4. Patient Movement Consultation. The combatant commander (CCDR) or Joint Force Commander (JFC) establishes policy for intratheater patient movement in CBRN environments. United States Transportation Command (USTRANSCOM) is responsible for intertheater patient movement policy. Specialized theater-level support may be required to properly transport and evacuate patients in certain contaminated environments. The PAM team may provide consultation to medical care providers on patient evacuation and transport issues complicated by CBRN agent contamination. The PAM team can provide information on the type of agent, hazards, contamination control procedures, and recommended protective postures for patients and medical personnel during ground or air transport.

6.5.4. Sample Shipments. The PAM team should coordinate with the transportation management office, logistics, medical laboratory, and EM on local plans for shipping samples of potential radiological, chemical, and biological agents for further testing, as well as chain of custody procedures. The plan should identify the OPR for packaging, storing, securing, shipping, escorting, and receiving the samples.

6.6. Interaction with Other Preventive Medicine Teams. The PAM team works closely with other deployed preventive medicine teams to monitor and control disease and injury. These teams may include other DOD counterparts and partner nations. The PAM team works with all medical personnel at the beddown location to establish procedures for gathering reportable disease and injury data.

6.7. Expeditionary Combat Support (ECS)/Base Operating Support (BOS) Requirements. The PAM team deploys with limited organic capability and requires ECS/BOS. ECS/BOS requirements include (but are not limited to) billeting, messing and other consumable materials, power, water, ice, latrines, showers, laundry, waste management, transportation, fuels, vehicle and equipment maintenance, general supplies, contracting, communications systems support, and security. ECS/BOS may be provided using the host base's capabilities, deployable bare base systems, and contracted civilian support. See Attachment 5 for quantified estimates on required support.

6.7.1. Health Surveillance Transportation Requirements. The PAM team requires access to a four-passenger or larger all-terrain vehicle with sufficient cargo room for their equipment to perform initial site assessments, CBRN response and assessment, and ongoing OEH surveillance. A second vehicle is required with the addition of the PAM Counter-CBRN team. PAM team members may perform their duties off-base and should have an international driver's license and government passport.

6.7.2. Backup Generator. The PAM sustainment equipment package includes a backup generator. This generator provides emergency power for the team's radiation monitoring equipment and analytical instrumentation and is not intended to support the environmental control unit (ECU). The PAM team relies on ECS/BOS for connection to the base power system. The PAM Counter-CBRN equipment package is engineered for compatibility with CP equipment and includes an ECU for proper overpressure.

Chapter 7

SECURITY

7.1. Security Roles and Responsibilities. Medical personnel and equipment are non-combatant assets as defined by the Geneva Conventions and Law of Armed Conflict (LOAC). Medical personnel and war reserve materiel (WRM) assemblages are protected IAW AFI 31-101, *Integrated Defense*. Current threat assessments provided by the CCDR and local threat conditions established by the JTF, Air Expeditionary Wing (AEW), or Air Expeditionary Group (AEG) commander dictate all local security measures. Medical facility commanders are responsible for ensuring security measures are in place to protect patients and personnel. PAM personnel are responsible for following personal protection measures outlined in AFI 31-101, area of responsibility (AOR) security briefings, established force protection requirements, and local guidance. PAM personnel will deploy with standard PPE and follow theater arming instructions as directed by the operational order (OPORD).

7.2. Physical Security. Security forces guard medical facilities only if deemed necessary as part of the Integrated Defense Plan. If the threat changes, security forces may appoint an augmented detail to provide force protection and entry control.

7.3. Operations Security (OPSEC). PAM personnel must protect mission-critical information (to include medical or casualty information) IAW CCDR OPSEC policy and AFI 10-701, *Operations Security (OPSEC).* Classified information must be transmitted by secure means and protected IAW AFI 16-1404, *Air Force Information Security Program.* Situation reports (SITREPs), medical surveillance, site locations, and compiled patient data are examples of information that may be classified.

7.4. Security of Weapons and Ammunition. Base security forces provide guidance and an armory to ensure the safe storage of weapons and ammunition. PAM personnel may maintain issued weapons and ammunition when authorized by the medical facility commander or equivalent at the direction of the JTF or AEW/AEG commander. All weapons and ammunition must be secured IAW AFI 31-101 and local procedures. With the exception of security forces responding to a request for assistance, personnel should not be allowed to enter the medical facility with a loaded weapon.

Chapter 8

TRAINING

8.1. Medical Readiness Training Requirements. Personnel assigned to a PAM UTC must complete individual, deployment, and unit training requirements IAW AFI 41-106 and MRA guidance. Examples include Readiness Skills Training (RST), CBRN emergency preparedness and response, and clinical AFSC training. Completion of all medical readiness training and equivalency training must be documented in the Medical Readiness Decision Support System (MRDSS). Theater-unique training requirements will be identified in deployment reporting instructions or line remarks.

8.2. Formal Training. PAM personnel assigned to UTCs FFPM1, FFPM2, and FFPM3 must attend the in-residence EMEDS formal course upon initial assignment to the UTC IAW AFI 41-106. This course provides field operational training in EMEDS setup and packout, deployed operations, equipment proficiency, and doctrine and is designed to promote team performance, cohesion, and cross-functionality. Personnel assigned to FFPM6 may attend the course, but it is not required.

8.3. UTC Sustainment Training. UTC sustainment training occurs between formal course attendance cycles and provides team training in the skills and knowledge a UTC must possess to fulfill mission essential tasks (METs). UTC sustainment training credit may be granted for participation in MET-driven exercises, operational readiness exercises (OREs), local exercises, and joint exercises. Contact the ACC/SGX training branch for information on MRA-approved sustainment training exercises.

8.4. Mission Essential Task Lists (METLs). METLs are designed to help assess, measure, and report a unit's ability to perform its mission. PAM personnel are expected to be proficient in the EMEDS Core METLs, as well as their UTC-specific METLs. Core METLs and UTC-specific METLs are available on the ACC/SG MEFPAK Playbook at **https://cs3.eis.af.mil/sites/MD-SG-00-15/default.aspx** or from the ACC/SGX training branch.

8.5. Functional-Specific Training. The following functional training is recommended for PAM team members.

8.5.1. Field Preventive Medicine Courses. USAFSAM, U.S. Army Public Health Center, United States Army Medical Research Institute of Chemical Defense (USAMRICD), and USAMRIID offer various preventive medicine courses focused on field operations. Recommended courses include Global Medicine, Combat Casualty Care, Operational Entomology, Contingency Preventive Medicine, and Bioenvironmental Engineering Response and Deployment Skills (BERDS).

8.5.2. Patient Care Cross-Training. BE and public health personnel should maintain patient care training (e.g., basic life-saving skills, self-aid buddy care, patient movement) to augment clinical personnel as needed. Cross-functional training includes familiarization with triage and emergency medical procedures, CBRN surveillance, environmental and industrial analysis, and epidemiological investigation and reporting.

8.5.3. EM Training. BE personnel should familiarize and train with EM personnel before deployment if the teams are co-located.

8.5.4. CBRN Defense Training. The PAM team should be familiar with AFI 10-2501, *Air Force Emergency Management Program,* and AFMAN 10-2503, *Operations in a Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Environment*. Recommended courses for all PAM personnel include Field Management of Chemical and Biological Casualties and Medical Management of Chemical and Biological Casualties offered through USAMRICD. BE personnel assigned to a PAM UTC should have recent training in one of these courses within the past three years. Other recommended courses include Radiation Safety Officer (RSO), Medical Effects of Ionizing Radiation (MEIR), and Nuclear Emergency Team Operations (NETOPS).

8.6. Vehicle Operation Training. PAM team members should obtain training in forklift and vehicle operations to ensure adequate coverage. Operators of material handling equipment, ambulances, and other government motor vehicles must have a government driver's license and appropriate certification IAW AFI 24-301, *Vehicle Operations*. PAM team members may perform some of their duties off-base and may require an international driver's license.

Chapter 9

LOGISTICS

9.1. Expeditionary Medical Logistics (EML) Support. The EML system provides time-definite resupply of materiel by synchronizing the flow of materiel, information, and funds from initial unit request to delivery. It links all partners in a complex supply chain (e.g., vendors, depots, carriers, third-party logisticians, and information managers). The EML system uses a pull process for resupply and a repair-and-return process for medical equipment maintenance to minimize inventory and airlift requirements. Within the EML system, a sustaining base is the materiel lifeline for deployed medical units. The sustaining base augments the deployed medical unit's limited logistical capability by assuming the bulk of the supply chain's administrative, sourcing, and tracking functions. The AFFOR/SG, in coordination with the Air Force Medical Logistics Operations Center (AFMLOC), determines the sustaining base. In a mature theater, a Theater Lead Agent for Medical Materiel (TLAMM) element may be linked to the combatant commands, JTF/SG, AFFOR/SG, deployed medical units, sustaining base, and AFMLOC. When a TLAMM is established, it becomes the deployed unit's primary point of contact for materiel and equipment support in theater. See AFTTP 3-42.8, *Expeditionary Medical Logistics (EML) System,* for more information on logistics support.

9.2. Medical Materiel Management. Most CONUS-based expeditionary medical equipment is managed and deployed through designated consolidated storage and deployment centers (CSDCs). Equipment UTCs may be pre-positioned in theater based on requirements from geographic CCDRs and the COMAFFOR.

9.3. Supplies and Equipment. Initial deployments include 30 days of supplies (the initial 10-day man-portable field packs and a sustainment package). UTC team chiefs should coordinate subsequent resupply through the medical logistics function at the deployed location. **Table 9.1** lists the PAM equipment UTCs and corresponding AS. The AS lists the equipment and supplies included in the equipment package. UTC team chiefs should be familiar with the contents of their equipment packages before deployment and should contact the medical logistics office for assistance with reviewing the AS.

Table 9.1. PAM Equipment and AS Matrix.

Equipment UTC	AS
FFPM4, ADVON Man-Portable Equipment	916E
FFPM5, Sustainment Equipment	916F
FFPM7, CBRN Support Equipment	902B

9.4. Medical Equipment Maintenance and Repair. Biomedical equipment technicians (BMETs) provide routine maintenance and repair of medical equipment at the deployed location. Medical equipment deemed broken beyond the medical facility's ability to repair should be sent to the regional Medical Equipment Repair Center (MERC) or the manufacturer. Some MERCs are designated Loan Repair & Return Centers (LRRC). The LRRC loans some specialized equipment to augment a deployed location's capability when equipment cannot be repaired locally.

9.5. Equipment Upgrades and Modernization. Changes to the PAM equipment package may result from technology advances and lessons learned feedback. MRAs typically budget and plan for major equipment reviews every five years.

ROBERT I. MILLER
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Attachment 1

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Abbreviations and Acronyms

ACC—Air Combat Command

ACS—Agile Combat Support

ADCON—Administrative Control

ADVON—Advanced Echelon

AE—Aeromedical Evacuation

AEF—Air Expeditionary Force

AEG—Air Expeditionary Group

AEW—Air Expeditionary Wing

AFDRSi—Air Force Disease Reporting System internet

AFFOR—Air Force Forces

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMLOC—Air Force Medical Logistics Operations Center

AFMS—Air Force Medical Service

AFRAT—Air Force Radiation Assessment Team

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFSC—Air Force Specialty Code

AFTH—Air Force Theater Hospital

AFTTP—Air Force Tactics, Techniques, and Procedures

AMC—Air Mobility Command

ANG—Air National Guard

AOR—Area of Responsibility

AS—Allowance Standard

ASIMS—Aeromedical Services Information Management System

ATWG—Antiterrorism Working Group

BAT—Biological Augmentation Team

BE—Bioenvironmental Engineering

BEE—Bioenvironmental Engineer

BERDS—Bioenvironmental Engineering Response and Deployment Skills

BMET—Biomedical Equipment Technician

BOS—Base Operating Support

BTA—Biological Threat Agent

C2—Command and Control

CBRN—Chemical, Biological, Radiological, and Nuclear

CBRNE—Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive

CCA—Contamination Control Area

CCDR—Combatant Commander

CDA—Corporate Dental Application

CE—Civil Engineer

CHART—CBRN Health Assessment and Risk Tool

CHEMRAT—Chemical Hazard Estimation Method and Risk Assessment Tool

CIO—Chief Information Officer

COMAFFOR—Commander, Air Force Forces

COMPUSEC—Computer Security

COMSEC—Communications Security

CONOPS—Concept of Operations

CONUS—Continental United States

CP—Collective Protection, Collectively Protected

CP-EMEDS—Collectively Protected Expeditionary Medical Support

CRG—Contingency Response Group

DBSS—Defense Blood Standard System

DOD—Department of Defense

DODI—Department of Defense Instruction

DSN—Defense Switched Network

ECS—Expeditionary Combat Support

ECU—Environmental Control Unit

EHR—Electronic Health Record

EM—Emergency Management

EMEDS—Expeditionary Medical Support

EML—Expeditionary Medical Logistics

EOC—Emergency Operations Center

FM—Field Manual

FOC—Full Operational Capability

GRL—Global Reach Laydown

HAZCOM—Hazard Communication

HRA—Health Risk Assessment

HRT—Health Response Team

IA—Information Assurance

IAW—In Accordance With

IDMT—Independent Duty Medical Technician

IOC—Initial Operational Capability

JEM—Joint Effects Model

JFC—Joint Force Commander

JOMIS—Joint Operational Medicine Information Systems

JTF—Joint Task Force

LAF—Line of the Air Force

LMW—Lead Mobility Wing

LOAC—Law of Armed Conflict

LRRC—Loan Repair & Return Center

MAJCOM—Major Command

MCRP—Medical Contingency Response Plan, Marine Corps Reference Publication

MEFPAK—Manpower and Equipment Force Packaging

MEIR—Medical Effects of Ionizing Radiation

MERC—Medical Equipment Repair Center

MET—Mission Essential Task

METL—Mission Essential Task List

MISCAP—Mission Capability

MOPP—Mission-Oriented Protective Posture

MRA—MEFPAK Responsible Agency

MRDSS—Medical Readiness Decision Support System

MSAT—Medical Situational Awareness in the Theater

MTF—Medical Treatment Facility

NBC—Nuclear, Biological, and Chemical

NCMI—National Center for Medical Intelligence

NETOPS—Nuclear Emergency Team Operations

NIPRNET—Non-classified Internet Protocol Router Network

NTTP—Navy Tactics, Techniques, and Procedures

OEH—Occupational and Environmental Health

OEH-MIS—Occupational and Environmental Health Management Information System

OEHSA—Occupational and Environmental Health Site Assessment

OPLAN—Operation Plan

OPORD—Operation Order

OPR—Office of Primary Responsibility

OPSEC—Operations Security

ORE—Operational Readiness Exercise

OSI—Office of Special Investigations

PAM—Preventive and Aerospace Medicine

PAR—Population at Risk

PHO—Public Health Officer

PLHA—Preliminary Hazard Assessment

POL—Petroleum, Oils, and Lubricants

PPE—Personal Protective Equipment

QNFT—Quantitative Fit Test

RAM—Residency in Aerospace Medicine

RDS—Records Disposition Schedule

RSO—Radiation Safety Officer

RST—Readiness Skills Training

SDC—Standard Desktop Configuration

SG—Surgeon General, Surgeon

SIPRNET—Secret Internet Protocol Router Network

SITREP—Situation Report

SME—Squadron Medical Element

SOF—Special Operations Forces

SRTS—Spectacle Request Transmission System

TET—Theater Epidemiology Team

TIC—Toxic Industrial Chemical

TIM—Toxic Industrial Material

TLAMM—Theater Lead Agent for Medical Materiel

TMIP-AF—Theater Medical Information Program – Air Force

TRAC2ES—Transportation Command Regulating and Command and Control Evacuation System

TTP—Tactics, Techniques, and Procedures

TWG—Threat Working Group

USAFSAM—United States Air Force School of Aerospace Medicine

USAMRICD—United States Army Medical Research Institute of Chemical Defense

USAMRIID—United States Army Medical Research Institute of Infectious Diseases

USTRANSCOM—United States Transportation Command

UTC—Unit Type Code

WMP—War and Mobilization Plan

WRM—War Reserve Materiel

Attachment 2

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EXPEDITIONARY COMBAT SUPPORT (ECS) REQUIREMENTS

Table A5.1. PAM ECS Requirements.

PAM ECS Requirements							
ECS calculations are IAW AFP 10-219, Vols 5 & 6, where applicable and data provided.							
	FFPM1	FFPM2	FFPM3	FFPM4	FFPM5	FFPM6	FFPM7
MOVEMENT REQUIREMENTS Calculations IAW AFPAM 10-1403 and DTR 45000.9-R, Part III							
Pallets (#)				1	2		3
C-130 (# aircraft)				1	1		1
C-17 (# aircraft)				1	1		1
C-5A (# aircraft)				1	1		1
M871 (# flatbed semitrailers)				1	1		1
M872 (# flatbed semitrailers)				1	1		1
SITE PREPARATION							
Square Footage (slight grade required)					1,200		1,200
Tents (#)					1		1
ECUs (# units)					1		1
Note: CE maintenance support is required for generator and ECU equipment.							
BASIC EXPEDITIONARY AIRFIELD RESOURCES (BEAR) REQUIREMENTS							
Latrine/Showers (# staff)	4	2	3			6	
Billeting (# staff)	4	2	3			6	
# Officers	3	0	0			1	
# Enlisted	1	2	3			5	
Meals (# meals/day) (= # staff x 3 meals/day)	12	6	9			18	
Laundry (lbs/week) (= 32 lbs/person/week)	128	64	96			192	
Ice (lbs/day) (= 4.4 lbs/person/day)	17.6	8.8	13.2			26.4	
Potable Water (gal/day) (= # staff x 10 gal/day)	40	20	30			60	
Power (kW) (3-phase)					20		20
Power with CP-EMEDS (kW) (3-phase)					25		25

PAM ECS Requirements							
ECS calculations are IAW AFP 10-219, Vols 5 & 6, where applicable and data provided.							
	FFPM1	FFPM2	FFPM3	FFPM4	FFPM5	FFPM6	FFPM7
CIVIL ENGINGEERING REQUIREMENTS							
Medical/Biohazard Waste							
Liquid (gal/day) (=0.7 x potable water rate)	28	14	21			42	
Solid (lbs/day) (= 4 lbs x # staff)	16	8	12			24	
LOGISTICS REQUIREMENTS							
POL							
Diesel Fuel (gal/day) (= 8.33 gal/hr x 24 hrs)							
Diesel Fuel CP-EMEDS Mode (gal/day)							
Unleaded Fuel (gal/day) (10kW backup generator)					10		10
Vehicles							
Vehicle Maintenance Support	Required for all						
Vehicle Requirements	1, 4x4 pickup truck for FFPM1-3 1 additional 4x4 pickup truck for FFPM6						
Material Handling Equipment	10K forklift						
COMMUNICATIONS AND INFORMATION SYSTEMS REQUIREMENTS							
Communication Equipment							
Phone (# lines) (Note: None organic; external support required)	1	1	1			1	
Satellite/Telemedicine (# equipment)					1		
Land Mobile Radios (# equipment)					4		6
Secure Telephone Equipment (# equipment) (Note: None organic; external support required)	1	1	1			1	
Information Systems and Network Support							

PAM ECS Requirements							
ECS calculations are IAW AFP 10-219, Vols 5 & 6, where applicable and data provided.							
	FFPM1	FFPM2	FFPM3	FFPM4	FFPM5	FFPM6	FFPM7
Laptops (# equipment)				1	1		
Printers (# equipment)					2		
Server Suite (# equipment)							
SIPRNET Access	Required for all						
NIPRNET Access	Required for all						
Operating System/Office Suite	DOD SDC						
RAM/Hard Drive	ITT Standard						
Clinical Applications	TMIP-AF						
Required Port Number/Protocol Access (TCP/UDP)	21/TCP; 443/TCP; 8080/TCP						
CHAPLAINCY SUPPORT							
	Required for all						
SECURITY FORCE SUPPORT							
	Required if not co-located on Air Base						

Attachment 6

OPERATING CAPABILITY CONDITIONS

A6.1. Initial Operational Capability (IOC). The PAM ADVON team is equipped with man-portable field packs and can provide initial medical capability within 15 minutes of arrival. The PAM Counter-CBRN team can reach IOC within 8 hours of arrival. IOC is reached when the following tasks have been completed:

A6.1.1. Man-portable field packs have been delivered to the site and are in the team's possession.

A6.1.2. Essential and emergent care has begun.

A6.1.3. Phase I of the OEHSA has begun.

A6.1.4. Initial public health assessment has begun, including input into site selection and layout of facilities.

A6.2. Full Operational Capability (FOC). The PAM ADVON team can reach FOC within 12 hours of arrival. The PAM-Counter CBRN team can reach FOC within 24 hours of arrival. FOC is reached when the following tasks have been completed:

A6.2.1. PAM shelter is established and equipment is available for operational use.

A6.2.2. Communications are established with the theater surgeon, other medical assets, and line assets at the beddown location.

A6.2.3. Initial employee data from the personnel office is entered into OEH-MIS.

A6.2.4. Phase I of the OEHSA is complete and Phase II has begun IAW AFTTP 3-2.82.

A6.2.5. TIC/TIM and food and water vulnerability assessments are initiated.

A6.2.6. A safe source of food and water is established.

A6.2.7. Medical personnel are participating in the ATWG and TWG.

A6.2.8. Medical contingency response plans (MCRPs) are established and reviewed.

A6.2.9. Patient encounter data is being analyzed and forwarded to the theater surgeon.

A6.2.10. Methods of detection and tracking of potential exposures of harmful agents, OEH sample results, and information on activities is being documented in the appropriate OEH-MIS.

A6.2.11. Full-spectrum sampling, analysis, and identification of CBRN agents is being performed.

Attachment 7

CBRN DEFENSE TASK SUMMARY

Table A7.1. Medical UTCs.

Medical UTCs			
EM	PAM Team	BAT	Patient Decontamination Team
Pre-Attack			
Conduct CBRN agent hazard analysis	Conduct food, water, disease, and TIC/TIM assessments	Conduct lab analysis of clinical and environmental samples for pathogens	Establish patient decontamination capability at MTF
Determine CBRN passive defense measures	Provide medically related CBRN defense advice for hazard analysis	Team with PAM team to determine sample handling and referral procedures	Coordinate with medical facility commander and casualty collection points to establish patient flow patterns
Set up and maintain CBRN warning, reporting, and notification capabilities	Initiate medical surveillance to support early BTA identification		Establish decontamination capability for medical equipment and vehicles
Establish and monitor contamination control area (CCA)	Provide health data on potential threat agents		Obtain base sectoring grid and base contamination status
With BE input, provide mission-oriented protective posture (MOPP) level recommendation to EOC commander	Assist with development of passive defense measures and MOPP level recommendation (to include de-masking and de-MOPPing)		
	Create annex to site MCRP for CBRN response		
	Provide quantitative fit testing (QNFT) as necessary		
	Establish detection system at medical facility		

Medical UTCs			
EM	PAM Team	BAT	Patient Decontamination Team
	Team with BAT to determine BTA sample handling procedures		
	Evaluate ventilation in shelters; provide advice on medical aspects of shelters		
	Advise EM on health and medical issues related to MOPP levels		
	Increase CBRN attack vigilance		
During Attack			
Provide advice on activation of warning and notification system	Shelter medical personnel and equipment	Shelter medical personnel and equipment	Shelter medical personnel and equipment
	Increase CBRN attack vigilance		
Post Attack			
Conduct tactical CBRN reconnaissance to determine contamination footprint and operational protective measures	Detect CBRN agents at the MTF, complete hazard evaluation, and report to EOC	Perform lab analysis and presumptive identification	Perform patient decontamination
Gather post-attack information	Conduct medical surveillance and report information to EOC	Report laboratory diagnostic information to EOC	Perform medical vehicle, shelter, and equipment decontamination
Plot detailed CBRN contamination footprint	Dispatch to identified CBRN footprint for further identification and quantification of hazard concentrations and collection of samples (surveillance for health protection)	Assist PAM team in preserving, packaging, and shipping confirmatory BTA samples	

Medical UTCs			
EM	PAM Team	BAT	Patient Decontamination Team
Plot CBRN attacks for theater warning and reporting	Report medical surveillance data to EOC		
Advise EOC commander on operational aspects of CBRN agents (e.g., persistency, contamination, isolation, and control)	Document individual exposures IAW DODI 6490.03		
Provide MOPP-level recommendation	Advise in support of reduced MOPP level recommendation (health/medical)		
Oversee CCA operations	Assess food and water for potential contamination and mitigation		
Oversee contamination control procedures	Identify groups of personnel in hazard areas (e.g., squadrons in contaminated sectors) and track exposure to CBRN agents IAW DODI 6490.03		
	Advise EOC commander on health effects and health risks of CBRN agents		
	Conduct platform and materiel contamination clearance IAW Under Secretary of Defense memorandums and AOR OPORD		
	Conduct surveillance activities in reduced MOPP level sectors		
	Conduct environmental		

Medical UTCs			
EM	PAM Team	BAT	Patient Decontamination Team
	surveillance in support of health hazard assessment		

Attachment 8

NOTIONAL PAM COUNTER-CBRN OPERATIONS LAYOUT

Figure A8.1. Notional PAM Counter-CBRN Operations Layout.