

## APPENDIX D

## PREVENTIVE MEDICINE SUPPORT IN LOW INTENSITY CONFLICT

**D-1. General**

*a.* Environmental disease, field hygiene and sanitation, and other PVNTMED concerns impact on the health of US forces employed in LIC. In LIC, the forces employed are often small independent units with limited personnel. The occurrence of DNBI and environmental injuries can adversely affect the success of the mission.

*b.* In furthering US national goals and objectives, military PVNTMED can be a major contributor to any US effort in a LIC environment. The very nature of military PVNTMED is conducive to the types of activities that support US policy objectives.

**D-2. Medical Threat**

*a. General.* The medical threat is traditionally evaluated for its impact on US forces and US military operations. In LIC, it must also be assessed in terms of its impact on the HN and its people. Low intensity conflicts often occur in developing nations where endemic disease and health deficiencies are prevalent. The medical threat is the driving force in the development of effective PVNTMED programs for both the US forces deployed and the HN across the operational continuum.

*b. Arthropod-Borne Diseases.*

(1) Few military personnel are aware of the magnitude of the medical threat posed by arthropod-borne diseases. These diseases are transmitted through the biting process of arthropods or by the physical transfer of disease organisms. Health service support planners and personnel operating in areas outside of the continental United States (OCONUS) must be aware of the total worldwide threat, as well as the specific threats in areas of potential and planned operations.

(2) In LIC, the level of sanitation, measures employed to control disease vectors, and the resources available to prevent and treat arthropod-borne diseases will vary. It must be

remembered that US forces operating OCONUS are a highly susceptible population and are, therefore, particularly at risk when conducting LIC operations.

- In disease-endemic areas, the native population may appear fairly healthy. Actually, they can harbor low-level infections of the disease, having been exposed to repeated infections since birth. The pathogen is kept at a low enough level by the host immune system that it is unable to *break out* as a serious clinical disease. This smoldering infection can be present at levels transmissible to a new host by arthropods. United States forces may be completely devoid of immune protection from a specific disease. Once they are infected by the pathogen being introduced into their system, it can reproduce unchallenged. The disease goes unchecked until it runs its course or terminates in the death of the host. In both cases, the individual is no longer effective in accomplishing his mission. Further, a portion of the available medical resources must be allocated to his care and treatment, and possible evacuation.

- Depending upon the mission, the resources required to treat large areas for the control of arthropods may not be available. United States forces are required to use personal protective measures to prevent contracting arthropod-borne diseases.

(3) During protracted conditions of conflict, areas of a country previously endemic but now free of diseases (such as malaria, yellow fever, and the plague) can expect a resurgence of these diseases. Naturally occurring diseases that have been *unnaturally* excluded from an area through public health controls can gradually reappear when conflict disrupts these controls, such as a shortage of —

- Pesticides.
- Fuel to run public health equipment and vehicles.
- Supplies of treatment drugs.

*c. Foodborne and Waterborne Diseases.*

(1) In areas of poor sanitation, locally-procured foods pose a high risk of disease for the LIC forces. Public health standards for food preparation to which US forces are accustomed are often absent in foreign countries. Further, food handlers are often carriers of disease that can be readily transmitted to unsuspecting patrons with the purchased food as the disease vehicle.

(2) Potable drinking water will be scarce in LIC operations. Low intensity conflict forces cannot be assured of the safety or quality of local water supplies. Locally purchased ice poses the same health risks as food and water.

(3) The risk of foodborne and waterborne diseases to LIC forces can be minimized by command enforcement of basic PVNTMED principles.

- The risk of experiencing a foodborne illness must be weighed against the impact on relationships with your HN personnel. Refusing to eat with your host may be considered an insult; more harm than good may be done to the mission by your refusal. If possible, eat food prepared by US military food service personnel. Maximize the use of meals, ready-to-eat (MREs).

- Only drink water that has been treated to US military standards (usually 5 parts per million [ppm] chlorine residual). Do not use locally prepared ice. Ensure adequate water disinfection supplies (iodine tablets and calcium hypochlorite) are available.

(4) Commanders should be alert to the possibility of terrorist attacks on or contamination of US military water sources. Possible targets include water treatment plants and equipment, and water distribution systems.

(5) Use of local water treatment facilities may provide needed water sources for LIC forces. Such facilities may require upgrades to meet US drinking water standards. In all cases, they must be monitored continuously by US PVNTMED personnel.

*d. Environmental Injuries.*

(1) Heat injuries can quickly diminish the effectiveness of a fighting force. Commanders must enforce a liberal water consumption policy. They must also ensure that soldiers consume an adequate number of meals. Food intake is required to prevent the loss of calories, salt, and minerals through sweating. When possible, operations should be conducted in the cooler parts of the day to lessen the risk of heat injuries.

(2) Cold injuries are preventable. Commanders must ensure that soldiers are informed about the risk of cold injury. Further, they should be provided proper protective clothing and warming areas. This is important for soldiers who are exposed to the cold when their activity level is at a minimum such as when performing guard duty. Dehydration also increases the risk of cold injury. The commander, therefore, must ensure that a liberal water consumption policy is enforced.

### **D-3. Preventive Medicine Support for an Insurgency**

*a.* The type and comprehensiveness of PVNTMED support for an insurgency depends on the needs of the insurgent movement and the legal authority to provide the support. For the insurgent forces, the incidence of disease and injury can be very high and can significantly reduce their combat effectiveness. The health risk to the insurgents is due in part to their—

- Limited number of personnel.
- Austere logistical system.
- Austere health care infrastructure.
- Tactical conditions.
- Environmental conditions.
- Disease prevalence.

*b.* A second aspect of insurgent support is concerned with the civilian population. As insurgent forces gain control over sections of the country, they

may need to provide basic services to the population that can no longer be provided by the local government. In this case, the effort would be to assist in providing public health and sanitation measures.

#### **D-4. Preventive Medicine Support for Counter-insurgency**

##### *a. Host Nation Military.*

(1) Preventive medicine support for the HN military can take several forms and should be conducted in a phased approach.

(a) The medical threat facing the HN military is evaluated and the PVNTMED measures to counter these threats are determined.

(b) An assessment of the HN military's capability to implement the required PVNTMED measures is completed.

(c) A PVNTMED plan is developed.

(d) When the plan is implemented, HN military participation is essential. Host nation military participation—

- Uses the local experience and expertise.

- Ensures that programs developed are correctly implemented and are not contrary to local political, economic, social, religious, and cultural practices and beliefs.

- Actively involves the chain of command to continue and institutionalize the programs.

(2) The types of programs which can be developed include—

- Field sanitation and personal hygiene training.
- Immunizations.
- Nutrition and food sanitation training.

- Water purification.
- Training a cadre of HN PVNTMED specialists to continue programs once US support is withdrawn.

##### *b. Host Nation Civilian Population.*

(1) Because many of the health problems in developing nations are conducive to public health and PVNTMED solutions, US military PVNTMED assets can play a significant role. Programs which can reduce the health risk and enhance the health status of the population include—

- Developing potable water systems.

- Introducing pest management methods and procedures.

- Enhancing or establishing waste disposal procedures.

- Enhancing maternal and child health care nutrition education.

- Administering immunizations.

- Other programs using the full gamut of PVNTMED expertise and experience.

(2) The PVNTMED measures and programs must be fully integrated into other HSS and civil-military activities (such as clinical, dental, veterinary, or engineering).

#### **D-5. Preventive Medicine Support in Combatting Terrorism**

The terrorist threat may include the intentional contamination of food and water, to include the use of NBC agents (Appendix B). As such, PVNTMED personnel may be the best qualified to—

- Evaluate such threats.
- Carry out surveillance.
- Conduct analysis and testing of suspect food and water.

- Provide guidance for handling and treatment operations.

### D-6. Preventive Medicine Support in Peacekeeping Operations

Peacekeeping forces are generally under strict size constraints and operate with an austere logistical support structure. It is essential, therefore, that a complete analysis of the medical threat be done. This analysis ensures that the medical assets are adequate for the needs of the deployed forces. Predeployment training on field sanitation and personal hygiene measures is necessary. The actual combat wounds which will be incurred in these operations are minimal. Disease and nonbattle injuries and environmental injuries will have the most impact on these forces. The majority of these conditions are preventable. Early refresher training and command emphasis on PVNTMED measures will decrease the threat to the peacekeeping force.

### D-7. Peacetime Contingency Operations

*a.* The role of PVNTMED in peacetime contingency operations varies depending on the mission, the environmental condition, and the deployed force. Early involvement in the planning phase of the operation is essential. Assessment of the medical threat and its impact on the operation must be determined.

- Rapid response requirements and lack of time to acclimatize the troops to the environmental conditions (heat and cold) may play a significant role in the accomplishment of the mission.

- The impact of endemic diseases may be reduced due to the short duration of many of these operations.

*b.* Noncombatant evacuation operations may present unique PVNTMED considerations. While hostilities may or may not be a part of the operation, the very requirement for evacuation indicates there is disruption of normal services. Breakdowns in the normal sanitary conditions, waste disposal, and health care may occur. Congregation of large numbers of personnel in

limited spaces awaiting evacuation may aggravate these conditions. Measures may need to be taken to prevent the transfer of exotic diseases to CONUS.

*c.* Disaster relief and humanitarian assistance operations may be the most common noncombat operations in peacetime contingency operations. The PVNTMED role varies depending on the type of mission, location, and duration of the support. United States government agencies (such as the State Department or the Agency for International Development) in coordination with the HN will take the lead in these activities. United States Army PVNTMED personnel will support these ongoing activities.

### D-8. Preventive Medicine Support

Preventive medicine personnel are uniquely qualified to provide the command with an assessment of the medical threat. They can address HSS to the deployed force, HN populace, refugees, EPWs, and other military units. Specialists within PVNTMED include—

#### *a. Preventive Medicine Officer.*

(1) The preventive medicine officer (PMO) is a physician who is a specialist in PVNTMED. He is knowledgeable in—

- Prevention of communicable and tropical diseases.
- Epidemic disease control procedures.
- Environmental medicine issues.

(2) This officer is knowledgeable in deployment-related medical problems and in the medical threats in developing countries.

(3) The PMO is able to—

- Assess the impact of endemic diseases on US troop populations.
- Provide advice on PVNTMED measures.

- Interface with the local public health officials regarding health problems that are affecting both the local population and US forces.

*b. Community Health Nurse.*

(1) The community health nurse (CHN) is educated and experienced in the public health nursing sciences. The CHN specializes in the following areas:

- Disease containment education.
- Critical assessment of community health needs.
- Immunization programs.
- Nutritional assessment of the HN populace.

(2) The CHN coordinates with and acts as a liaison to the HN public health program staff.

(3) This officer has a broad knowledge of diseases of public health significance. The CHN can assist in reducing the adverse impact on endemic diseases by recommending or implementing intervention strategies. Additionally, the CHN is able to identify the cause and intervene in epidemics, and to improve general health conditions.

(4) The CHN can provide assistance in a number of scenarios, such as health problems associated with refugee populations, EPW camps, and displaced persons.

*c. Environmental Science Officer/Sanitary Engineer.*

(1) This officer is knowledgeable in the following areas:

- Field sanitation.
- Drinking water source selection.
- Water purification and pollution control.

- Disease prevention.
- Waste handling and disposal.
- Food service sanitation.
- Environmental stress.

(2) This environmental science officer can work independently or as part of the PVNTMED team. He can provide direct assistance to resolve specific problems, recommend PVNTMED measures to the commander, and provide required training.

(3) Historically, the lack of field hygiene and sanitation in the field environment has resulted in the loss of soldier effectiveness. The environmental science officer can assist in reducing this risk as well as improving conditions for the surrounding civilian population.

*d. Entomology Officer.* The entomology officer is specially trained to—

- Provide advice and assistance to commanders relating to—
  - Disease-causing arthropods.
  - Use of personal protective measures.
  - Strategies for the application of pesticides.
- Provide surveillance and identification of significant arthropods.
- Provide specialized training.
- Assist in epidemiological investigations of arthropod-borne disease outbreaks. These outbreaks may be either naturally occurring or introduced by the migration of human or animal reservoirs.

*e. Preventive Medicine Specialist.*

(1) The PVNTMED specialist is oriented and trained to handle PVNTMED issues

encountered in field operational settings.  
Capabilities include—

- Food service sanitation.
  - Drinking water purification.
  - Personal hygiene.
  - Waste handling and disposal.
- Pest management.
  - Environmental stress.

(2) This specialist can provide training and conduct inspections in the areas delineated in (1) above.

(3) The PVNTMED specialist can operate independently or as part of the PVNTMED team.