Introduction
The world is not a neat and orderly place. For at least the next decade, conflict will be the normal state of affairs for much of the world's population, and many challenges and challengers to U.S. interests will arise.

As U.S. forces are deployed in this chaotic environment, often in new and unconventional ways, coping with disease and non-battle injury (DNBI) will be an increasingly formidable problem. In conventional operations as well as peacekeeping missions, humanitarian assistance missions, non-combatant evacuation operations, and military assistance efforts, deployed forces will be exposed to multiple infectious diseases and will face a variety of environmental and safety hazards. In many operations, the impact of DNBI is likely to far outstrip that of combat injuries, as was the case during recent operations in Somalia and Haiti. Additionally, in future operations medical assets are likely to be called upon to provide services for nonmilitary populations.

The purpose of this paper is to provide an assessment of the most important DNBI threats to the Marine Corps, and the potential impact that these conditions could have on deployed personnel. We propose basic operational recommendations to identify and counter the DNBI threats, emphasizing particularly the critical role of line commanders in implementing effective countermeasures. We also consider some of the critical issues in using military medicine to care for non-military personnel.

The Principal DNBI Threats
Non-battle injury. The modern battlefield will be an extremely mobile, fast-moving, and dangerous environment. The speed with which deployment of forces, amphibious on- and off-loading, and buildup of forces can occur virtually guarantees mishaps and accidents.

During Operation Desert Shield/Storm, non-combat-related injuries far outnumbered combat-related injuries as a cause for medical evacuation, even during the combat phases of the mission. Most injuries were the result of motor vehicle accidents but many were also caused by mishandling ordnance, collecting "war souvenirs," participating in sports, and conducting training.

The problem of accidental injury was not unique to the Gulf War. Historically, accidents have always been a significant problem in military operations. In Haiti, approximately 10% of the
deployed force was seen weekly on an outpatient basis for various DNBI, with accidental injury the most prevalent diagnostic category.\textsuperscript{3} In Somalia, DNBI rates were similar with injury a major contributor.\textsuperscript{3} In operations where alcohol is more readily available, accidental injury can be even more of a problem. Preventing accident and injury in fast paced operations will be one of the most formidable challenges for future commanders.

**Disease Threats.** Over one fourth of the world's population, approximately 1.25 billion peoples, are mired in poverty with little access to clean water, basic sanitation, or any kind of medical care. As a result, they suffer from a wide variety of infectious diseases such as diarrhea, malaria and dengue fever.\textsuperscript{4,5} Additionally, today there are more than 50 million refugees and displaced persons in the world, many of whom also suffer from high rates of communicable diseases.\textsuperscript{6} Poverty and the massive migration of persons will clearly continue, leading to even more refugees and displaced persons, and to increased squatter settlements around urban margins, which have been referred to as the "septic fringe" because of the squalid conditions and high rates of illness. Current intelligence estimates indicate that over the next decade, the Marine Corps is highly likely to be involved in areas where there are refugees or extensive poverty.\textsuperscript{7} Table 1 summarizes the principal infectious disease pathogens of concern to deployed personnel today.

**Diarrheal diseases.** One of the most common and most important disease syndromes in the world is diarrhea, and its more severe manifestation dysentery. Diarrhea syndromes are caused by infection with one of a number of different bacteria, viruses or parasites, and are spread principally through poor sanitation, contaminated food or water, poor personal hygiene and filth flies. The consequences of diarrhea, and particularly dysentery, can be severe. Diarrheal diseases historically have been the leading cause of death in the world, and annually are responsible for millions of deaths, particularly among children.\textsuperscript{4}

Historically, diarrhea and dysentery have also plagued military forces. In the Civil War, many more troops died of diarrheal disease than battle wounds. Although these illnesses are rarely fatal in U.S. troops today, they still can still cause substantial impact during operations, especially during the initial phases of deployments when troops are more likely to be subjected to crowded, unsanitary conditions. Because diarrheal diseases have the potential to severely reduce the combat capability of deployed forces, they are commonly considered the diseases of primary importance in maintaining force readiness in the field.

During the Gulf War, more than half of all troops experienced diarrhea during their first month in Saudi Arabia, and more than 20% were unable to work for one or more days.\textsuperscript{8} Had the timing of the war been different, this would have had serious operational impact. For another example, in 1988, after a brief, five-day port call to Alexandria, Egypt, 21% of the crew aboard the USS John F. Kennedy were afflicted with "traveler's diarrhea," after they ate and drank ashore. This outbreak resulted in an average of at least 110 lost man-hours of work per person who became ill in a time of critical operations.\textsuperscript{9} There are a multitude of other such examples of diarrhea outbreaks during which large numbers of troops were severely affected.
Of additional concern is the emerging ability of some of the most common diarrhea-causing organisms to resist treatment with currently available antimicrobial drugs. During the period of the study of the Kennedy's crew, the percentage of antibiotic-resistant diarrhea causing bacteria in the Middle East was low. By 1989, however, evidence had emerged that a number of the organisms in this region had become multi-drug resistant on a widespread basis. By Operations Desert Shield/Desert Storm and Restore Hope in Somalia, extensive antibiotic resistance had developed.\(^9,10\)

Effective treatment drugs still exist, such as the antibiotic ciprofloxacin, but studies from around the world suggest that resistance to this and the other currently available drugs is rapidly developing.\(^11\) Deployed troops will certainly face diarrhea and dysentery in the future, and quite possibly increasingly drug resistant pathogens for which there may not be an effective therapy.

**Malaria.** Malaria is a severe and potentially fatal illness characterized by fever, chills, headache, muscle aches, and malaise. This illness is caused by parasites transmitted to humans by mosquitoes. Although it was believed in the 1960's that malaria could be eradicated, the global situation with regard to this disease has deteriorated and continues to worsen. Today, there are an estimated 200 million cases of malaria in the world every year and between 1-3 million malaria deaths.\(^12\)

Malaria historically has lead to enormous losses of personnel in military campaigns. After World War II, British Field Marshall Slim commented in regard to his allied command in southeast Asia, "In 1943, for every man evacuated with wounds, we had 120 evacuated sick. The annual malaria rate alone was 84% per year of the total strength of the army and even higher among forward troops. A simple calculation showed me that at this rate my army would have melted away."\(^13\) Malaria losses were also high among U. S. troops in the Korea and Vietnam conflicts where entire battalions were at times rendered ineffective by this infection. During Operation Restore Hope in Somalia, over 350 U.S. military personnel contracted malaria.\(^14\)

As with diarrheal diseases, coping with malaria is increasingly complicated by the emergence of drug resistant strains of the organism. Unfortunately, there is no longer any uniformly effective preventive drug. The old standard drug chloroquine is rarely useful today. The newer drugs, such as mefloquine and doxycycline, have potential side effects and are not 100% effective. Also, the mosquito that transmits malaria has developed significant resistance to once-effective pesticides.\(^12\)

U.S. military personnel deployed to tropical environments, particularly those in the developing world where eradication efforts are ineffective, are certain to continue to face a very high risk of contracting malaria. As drug and insecticide-resistance continues to be pervasive worldwide, rates of infection among U.S. forces deployed to malarious areas could increase.
Arboviral diseases. Arboviral diseases are caused by viruses transmitted to humans via the bite of an arthropod, usually a mosquito or tick. Arboviral illness is characterized by incapacitating fever, headaches, muscle aches, and malaise--much like malaria. Commonly known arboviral diseases include dengue fever, yellow fever, and Japanese encephalitis, but there are a number of others. Arboviruses are highly prevalent in the world today, such as yellow fever which remains a significant threat in many tropical areas. Japanese encephalitis is a serious threat in areas where the Marine corps often operates in Southeast Asia. Some arboviruses, particularly dengue fever, are actually becoming more prevalent alobally.\textsuperscript{15}

There is no curative therapy in existence for most of these infections. When contracted on a widespread basis, arboviral illnesses can severely hinder a unit's ability to conduct operations. In Somalia, one Marine Corps battalion had a 15\% attack rate of dengue fever in just one month. Most of these ill troops were required hospitalization for 4-5 days. This was disruptive for the force and negative for morale.\textsuperscript{16} Dengue fever was also a problem for units in Haiti.

The particular mosquitoes that transmit arboviral diseases are extremely difficult to control. Some are very well adapted for human habitats, and as with the malaria carrying mosquitoes, they have become resistant to commonly used insecticides. Although not as common as diarrhea or malaria, arboviral infections will continue to be a substantial threat to U.S. troops in much of the world today.

Other Disease Threats. MEDICAL CHALLENGES FOR DEPLOYING U.S. FORCES IN THE MID-TERM, influenza, hepatitis, meningitis, sexually transmitted diseases (including HIV), and cholera are some of the other significant infectious disease threats to U.S troops. While diarrhea, malaria, and arboviruses are classically viewed as the major "war-stoppers," (those diseases that can quickly strike a force in large numbers and disrupt operations), these other infectious diseases are also important threats. They are prevalent in much of the world, principally in underdeveloped tropical areas, but also in areas like the former Yugoslavia that have been decimated by conflict.\textsuperscript{11,17}

Historically, these other diseases occur only occasionally in U.S troops, but they have substantial outbreak potential. As with the "warstoppers," these infectious diseases also exhibit new patterns of occurrence and increasing drug resistance.

For example, there are an estimated 100 million active cases of the MEDICAL CHALLENGES FOR DEPLOYING U.S. FORCES IN THE MID-TERM in the world today, primarily in the developing world. The increased occurrence and severity of this ancient scourge in HIV positive individuals, and the development of untreatable drug resistant strains, are dire new developments. MEDICAL CHALLENGES FOR DEPLOYING U.S. FORCES IN THE MID-TERM outbreaks have occurred infrequently in U.S. forces and we have not yet seen a drug resistant strain in operating forces. However, a drug sensitive MEDICAL CHALLENGES FOR DEPLOYING U.S. FORCES IN THE MID-TERM case recently occurred onboard a naval vessel. This one
case rapidly lead to infection of many other crew members. This incident clearly demonstrated the potential for a MEDICAL CHALLENGES FOR DEPLOYING U.S. FORCES IN THE MID-TERM outbreak with a more lethal pathogen.

Environmental Hazards. Deployed troops also will face important environmental disease threats. Heat illness has decimated some armies in the past, such as Egyptian forces in the Sinai in 1967 when an astounding 20% of some Egyptian units operating in desert conditions died from heat and dehydration in just a few days. Fortunately, in U.S. forces in recent years, aggressive line-supported heat illness prevention programs have kept heat casualties to a minimum. In the Gulf, Somalia, and Haiti the number of heat casualties were very low despite very hot conditions.

Heat, however, remains a major threat in areas where the Marine Corps is likely to operate. In some situations, such as in the former Yugoslavia, cold injury can be a substantial concern as well.

An increasingly important concern for U.S. forces is exposure to inappropriately handled wastes and toxic byproducts of industry. Some of the countries of the former Soviet Union and Eastern Europe, for examples, are toxic wastelands. Intense pollution appears to have severely disrupted ecosystems and may also be having profound effects on local human populations. The threat to troops who may have to operate in such polluted areas is unclear. Also, troops are increasingly likely to operate in close proximity to industrial plants where there is substantial risk of accidents involving potentially toxic materials.

Biting or stinging animals, such as snakes, scorpions and various sea creatures often receive considerable attention on deployment. Much effort is often expended researching these threats and obtaining anti-venoms and anti-toxins. While an important concern, bites and stings are actually infrequent and never a threat to operational readiness.

Operational Recommendations for Protecting U.S. Troops

The Power of Prevention. A critical challenge for commanders will be to maintain the health of the troops in the face of these many imposing health threats. However, even in the face of increased safety risks and emerging infectious diseases, the vast majority of DNBI is preventable. Attention to fundamental preventive and safety programs will effectively counter almost all of these threats. Studies in the Gulf showed that in those situations where injury prevention measures were not carefully followed, accident rates were markedly higher. In those areas where safety measures were adhered to, accidents were minimized.

Also in the Gulf, a variety of common causes for the diarrhea outbreaks were identified, including the use of unapproved local foods, unsafe food handling practices in the field, inadequate construction of latrines, and the prevalence of flies. When these factors were ultimately controlled, diarrhea rates plummeted markedly.

Most malaria is also preventable. Many studies have shown repeatedly that malaria cases in
troops almost invariably result from failure to comply with recommended prevention measures.\textsuperscript{12} During Operation Restore Hope, failure to take antimalarial drugs, to use bed nets, and to use mosquito repellents were responsible for more than 90\% of malaria cases.\textsuperscript{21} This was true in Vietnam as well. As shown in Table 1, there are effective countermeasures for other infectious diseases and environmental threats.

\textit{Table 1. Principal Disease and Non-Battle Injury (DNBI) Threats and their Countermeasures}

<table>
<thead>
<tr>
<th>Injuries and Accidents</th>
<th>Command Safety Programs</th>
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<tbody>
<tr>
<td>Diarrheal Diseases</td>
<td>Immune responses, approved food and water, field hygiene, hand-washing, proper latrines, safe food handling, safe waste disposal, insect and pest control</td>
</tr>
<tr>
<td>Malaria</td>
<td>Chemoprophylactic drugs, personal protective measures, repellents, sleeves down, bed nets, treated uniforms and bed nets, insecticides, insect control</td>
</tr>
<tr>
<td>Arboviral Illnesses</td>
<td>Immunizations, personal protective measures, insect control</td>
</tr>
<tr>
<td>Sexually Transmitted Diseases</td>
<td>Immunizations, abstinence, condoms/safe sex, limited alcohol use</td>
</tr>
</tbody>
</table>
Environmental Hazards  Heat and Cold Illness  Prevention Programs  Avoid wild animals

Line Involvement. The effective implementation of DNBI countermeasures is often viewed as a medical issue, but it is primarily a command responsibility. Medical personnel can make recommendations, but line enforcement of countermeasures is the real key. General Slim implemented a number of command administered countermeasures to cope with malaria, such as enforced taking of malaria prevention drugs. He ultimately noted, “Good doctors are no use without good discipline. More than half the battle of disease is fought, not by the doctors, but by the regimental officers.”

This applies to all countermeasures—it is commanders who have the authority to see that countermeasures are carried out, not medical personnel.

Measures prior to deployment. The first step for commanders preparing to deploy is to assess the health threats for a given deployment. Each deployment is unique and only once the biological and environmental threats are adequately characterized can appropriate countermeasures be instituted. Basic pre-deployment countermeasures include providing educational briefings, administering the right immunizations, assuring basic supplies are available, obtaining supplemental drugs and supplies, and properly treating uniforms and bed nets with repellents.

Table 2. Basic Approach for Commanders to Counter Disease and Non-Battle Injuries

<table>
<thead>
<tr>
<th>Pre-deployment</th>
<th>Assess medical threats</th>
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<tr>
<td></td>
<td>Plan countermeasures</td>
</tr>
<tr>
<td></td>
<td>Obtain needed supplies/equipment</td>
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<td></td>
<td>Training for medical staff</td>
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<tr>
<td></td>
<td>Provide health briefings</td>
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<td></td>
<td>Implement countermeasures</td>
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<table>
<thead>
<tr>
<th>During deployment</th>
<th>Continue countermeasures</th>
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<tbody>
<tr>
<td></td>
<td>Conduct disease surveillance</td>
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<tr>
<td></td>
<td>Conduct laboratory evaluation</td>
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<tr>
<td></td>
<td>Investigate disease outbreaks</td>
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<tr>
<td></td>
<td>Refine/modify countermeasures</td>
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<table>
<thead>
<tr>
<th>Post-Deployment</th>
<th>Ensure countermeasures continued</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ensure appropriate medical follow-up</td>
</tr>
<tr>
<td></td>
<td>Post-deployment medical briefings</td>
</tr>
</tbody>
</table>
A number of excellent resources are available to assist commanders and medical personnel develop appropriate countermeasures. The environmental health officers, entomologists, preventive medicine technicians, and medical planners assigned to the Fleet Marine Force are the most essential resource. Recently, preventive medicine physicians were assigned to each of the Marine Expeditionary Force Surgeons and to Headquarters, Marine Corps, to assist in dealing with DNBI in the Fleet Marine Force.

The four Navy Environmental and Preventive Medicine Units (NEPUS) are also critical resources.

### Table 3. Resources for Medical Threat Information

#### Navy Environmental and Preventive Medicine Units

- NEPMU-2, Norfolk, VA, (804) 444-7671, DSN 564-
- NEPMU-5, San Diego, CA, (619) 556-9254, DSN 526-
- NEPMU-6, Pearl Harbor, HI, (808) 471-9505, DSN 471-
- NEPMU-7, Sigonella, Italy, 39-95-56-4101, DSN 624-

Internet home page: http://ehc4O..med.navy..mil

#### Armed Forces Medical Intelligence Command

- Operations Division, Ft. Detrick, MD, (301) 619-7574, DSN 343-
- Computer Bulletin Board: 1-800-325-0195

The NEPMUs maintain current "Disease Risk and Assessment Profiles (DISRAPs)." A DISRAP exists for every country in the world. Each one describes current disease threats and recommended countermeasures for troops deploying to that country. The Armed Forces Intelligence Command (AFMIC), in Ft. Detrick, MD, is continuing to develop excellent summaries of disease threats, such as their "Disease and Environmental Alert Reports, " which also provide disease threats by country. AFNHC recently has promulgated detailed medical information on CD-ROM in their Medical Environmental Disease Intelligence and Countermeasures (MEDIC) program. AFMIC products and DISRAPs can also be obtained through computer bulletin boards.
One of the major mistakes commonly made by deploying units is not involving medical personnel early enough in the planning process. When health threats are not recognized early, necessary countermeasures can not be implemented. For example, some units deploying to Somalia had no antimalarial drugs, bed nets, or insect repellents even though this area was well known to be malaria endemic.\(^{21}\)

Commanders must appreciate that evaluating and coping with health threats can sometimes be as much art as science, with a strong measure of practicality thrown in. The decision to use a given vaccine, for example, may not be straightforward. The decision will be based on sometimes imperfect knowledge of the threat in an area, and will be influenced by potential side effects of the vaccine, the effectiveness of the vaccine, logistics, cost, and a number of other practical concerns.

Also, with changing disease patterns and drug resistance, countermeasures are rapidly changing.\(^{1,17}\) Drugs effective against malaria in one area may not be effective tomorrow. New vaccines are becoming available, such as the recently licensed hepatitis A vaccine, which will soon supplant immune globulin throughout the Fleet Marine Force. Occasionally important vaccines or drugs are still in the research and development phase, as was the case with Japanese encephalitis vaccine until a few years ago. The demands of every deployment will be different--often there are no simple solutions.

**During deployment.** Preparing troops is not enough. Once in a malarious area, for example, commanders must assure that troops rigorously apply insect repellents, use bed nets, keep sleeves rolled down and continue take their antimalarial drugs. A battalion in Somalia that did not follow basic malaria precautions in the field experienced a 12% attack rate of this disease in just a few weeks." A major problem in the Gulf War was inadequate attention to basic field hygiene. Medical personnel acting without line support were often unable to enforce hand washing, assure proper latrine construction, monitor food management and enforce proper trash disposal. High rates of preventable diarrhea ensued.\(^{22}\)

Experiences in the Gulf, Somalia and Haiti showed that in addition to enforcing basic countermeasures, establishing a system of disease surveillance gives commanders an essential tool in coping with DNBI. A field surveillance system calls for simple reports of sick call and hospitalizations to be sent to a central source on a regular basis. This real-time information of the disease experience among the troops is quickly analyzed and reported to key medical and line commanders. This allows commanders to know immediately when and where disease problems are occurring. Efficient and timely investigation of disease problems may then ensue. Without such surveillance, each medical provider is operating in a vacuum and there is no mechanism to identify disease problems or to determine the causes of outbreaks. Using a basic medical surveillance system, diarrhea, malaria and dengue fever outbreaks were quickly identified and controlled in the Gulf and in Somalia.
Experience in the Gulf and Somalia also showed that a critical adjunct to surveillance efforts is a forward laboratory that allows definitive characterization of disease pathogens.\textsuperscript{8,21,23} The capability to determine immediately in the field exactly what pathogens are causing illness and what drugs are effective for dealing with them proved to be critical. Surveillance plus rapid characterization of infectious pathogens allowed modification of countermeasures and highly focused and appropriate treatment. This prevented much illness, reduced medical evacuations, and saved lives.

The tools of surveillance and the laboratory can also be used to monitor environmental problems and injuries. An Army laboratory in the former Yugoslavia is being used today to evaluate pollution levels and accident patterns.

**Post-deployment.** The incubation period of some diseases will persist beyond the point at which troops leave the theater of operations. In contrast to the Korean War, when troops spent weeks returning home on ships, Marines today can depart the theater of operations and be on liberty or leave in just a few days. Today it is too easy for personnel returning home to conclude that the mission is over and that disease countermeasures are no longer necessary.

After Operation Restore Hope in Somalia, hundreds of cases of malaria occurred in troops who stopped taking their antimalarial drugs prematurely.\textsuperscript{24} As a result, malaria cases occurred in Marines who had dispersed to 31 different states and four foreign countries. Many cases occurred in places where civilian and military medical providers were not prepared to recognize and treat this disease. Thus, it is paramount for commanders to recognize this period of vulnerability immediately after personnel depart a theater, and assure that recommended countermeasures continue to be followed.

In the aftermath of the gulf War and the purported "Persian Gulf Illness," we know now that after deployment, troops should be debriefed on the health threats to which they may have been exposed. Troops must understand where they should go in the event of medical problems and have the opportunity to seek definitive care. If disease problems have occurred, early targeted investigations into the suspected problems will help clarify the concerns and help thwart misconceptions and misinformation.\textsuperscript{25}

**Providing Care to Non-U.S. Military Personnel.**

In future operations, the Marine Corps is likely to have to cope with the medical needs of many persons besides the U.S. military. In Kurdistan, for example, Marine Corps medical elements provided care to many thousands of Kurdish refugees.\textsuperscript{26} In Somalia, even though medical support was deployed to provide support for U.S. forces, the First Medical Battalion in Mogadishu took care of foreign military personnel, civilian relief workers, the news media, and indigenous Somalis.\textsuperscript{27} United Nations and Coalition operations invariably involve a variety of
extra medical responsibilities involving taking care of troops other from other forces and various local persons.

Also, the Marine Corps has a long tradition of conducting medical civic action projects (MEDCAPs), in which medical services are offered to local populations. MEDCAPs are not only viewed as a humanitarian gesture, but also as having the potential of improving security operations, enhancing public relations, and gathering needed local intelligence. However, using the U.S. military to provide care to other populations can be problematic. Health service support to the Marine Corps is carefully tailored to deal with the medical problems that occur in healthy U.S. troops. Handling combat trauma and battlefield medical issues is the principal focus. With the recent restructuring of the Medical Battalions, and ongoing modification of other Marine Corps medical support to meet the demands of operational maneuver from the sea, health service support is increasingly focused on the demands of operating Marine units.

However, local populations have a very different age and sex distribution, markedly different disease problems, different standards of medical care, and a very different cultural view of the practice of medicine. Medical training, supplies, and equipment can be poorly suited for other missions. In the Kurdish refugee crisis, for example, Navy medical providers did not have the experience or the critical supplies to cope with the rampant diarrhea in children, or to provide necessary immunizations. Similarly, in MEDCAPS, medical elements are not well prepared to address the health demands of a developing world population.

In some circumstances, using U.S. military medical assets to care for indigenous populations not only may fail to meet local expectations but also may be very disruptive to local medical systems. Well intentioned efforts may actually do more harm than good. Additionally, a myriad of difficult legal and ethical issues invariably arise when we assume care for others. Questions of liability, standards of care, and the appropriate disposition of those with chronic problems will inevitably arise.

Thus, commanders must very carefully weigh the pros and cons of medical missions meant to help other populations. If these missions are to be undertaken, focusing on basic medical care and preventive services that can help build local capacity may be more productive in the long run than the usual sick call approach in which we typically dispense only those medications that we have readily available for our troops. Obtaining supplies and training, over and above that typically used to support U.S. forces is a critical consideration. Also, in humanitarian assistance and civic action missions, coordination with local health care providers, United Nations agencies, and nongovernmental organizations (NGO) who are operating locally and have much more experience dealing with the indigenous populations, is essential.

Conclusion
In many areas of the world, poverty, armed conflict, natural or man-made disasters, and other factors interact to create an environment where there is much disease. In some areas unchecked industrial development has profoundly polluted the environment. As U.S. forces deploy to these areas, these health hazards could easily outstrip the importance of actual battle injuries in Marine Corps forces. Attending to the medical needs of local civilians and other populations also could command a significant share of medical resources. Commanders should assure the threats are identified and appropriate countermeasures implemented. Commanders will be challenged to assure they have adequate resources to meet the medical challenges of the years ahead.

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18. Unpublished data from Navy Environmental Preventive Medicine Unit Five, San Diego, CA.