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(U) Infectious Disease Risk Assessment: Iraq

January 2004
DI-1812-IRQ-04
Information Cutoff Date: 02 January 2004

Key Judgments

- AFMIC assesses Iraq as **INTERMEDIATE RISK** for infectious diseases, with an overall disease risk that will adversely impact mission effectiveness unless force health protection measures are implemented.
- **High Risk Diseases**: The main force health protection emphasis should be on these diseases, which are the most likely to degrade operations by affecting a large percentage of personnel, or by causing severe illness in a smaller percentage. High risk diseases are grouped into transmission categories that are prioritized in descending order of risk.

Foodborne And Waterborne Diseases	Diarrhea - bacterial, Hepatitis A, Typhoid / paratyphoid fever
Vector-borne Diseases	As a group may constitute a high risk; see table

- **Intermediate Risk Diseases**: These diseases also warrant force protection emphasis. They are less likely to degrade operations because they generally affect smaller numbers of personnel, or cause mild symptoms. Other intermediate risk diseases are those assessed to be present at unknown levels that, under conditions favorable for transmission, could degrade operations. See Detailed Information on Intermediate Risk Diseases .
- **Low Risk Diseases**: Other militarily significant diseases that are likely to have a minimal impact on operational readiness. See List of Diseases of Low Risk or the Summary Table.

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Map of Iraq

JPG (246.1 kb)
PDF (129.4 kb)

Appendix

Foodborne And Waterborne Diseases of High Risk

Overview:

Though improvements are being made, sanitation remains generally poor throughout the country, including major urban areas. Local food and water sources (including ice) are heavily contaminated with pathogenic bacteria, parasites, and viruses to which most US service members have little or no natural immunity.

Disease surveillance has improved since Operation Iraqi Freedom. In the years prior to the operation, only a small fraction of disease was identified or reported.

Diarrheal diseases can be expected to temporarily incapacitate a very high percentage of personnel within days if local food, water, or ice is consumed. Hepatitis A and typhoid fever can cause prolonged illness in a smaller percentage.

In addition, though not specifically assessed in this document, viral gastroenteritis (e.g., Norwalk, Norwalk-like virus) and food poisoning (e.g., Bacillus cereus, Clostridium perfringens, Staphylococcus) may cause significant outbreaks.

The diseases of high risk are listed first, in descending order of expected impact. Diseases of intermediate risk, with a lower or unknown likelihood to degrade operations, are listed alphabetically in tabular form.

Diarrhea - bacterial

Risk Assessment: (b)(3):10 USC 424;(b)(3):50 USC 3024(i)

- An operationally significant attack rate [redacted] could occur among personnel consuming local food, water, or ice. Field conditions (including lack of handwashing and primitive sanitation) may facilitate person-to-person spread and epidemics.
- Typically mild disease treated in outpatient setting; recovery and return to duty in less than 72 hours with appropriate antibiotic therapy.

Risk Period: Year-round

Risk Distribution: Countrywide (including urban areas)

Typical Incubation Period: 1 to 3 days

Epidemiology Comments: In general, bacterial agents such as enterotoxigenic E. coli, Campylobacter, Shigella, and Salmonella are the most common causes of "traveler's diarrhea" wherever sanitary conditions are significantly below US standards.

Hepatitis A

Risk Assessment: (b)(3):10 USC 424;(b)(3):50 USC 3024(i)

- An operationally significant attack rate [redacted] could occur among unvaccinated personnel consuming local food, water, or ice. Field conditions (including lack of handwashing and primitive sanitation) may facilitate person-to-person spread and

epidemics.
- Typical case involves 1 to 3 weeks of debilitating symptoms, sometimes initially requiring inpatient care; recovery and return to duty may require a month or more.

Risk Period: Year-round

Risk Distribution: Countrywide (including urban areas)

Typical Incubation Period: 28 to 30 days (maximum range: 15 to 50 days)

Epidemiology Comments: In non-indigenous personnel, hepatitis A typically occurs after consumption of contaminated food or water. Infection also may occur through direct fecal-oral transmission under conditions of poor hygiene and sanitation. Childhood hepatitis A infections tend be asymptomatic or have mild symptoms, while adults typically develop jaundice and other symptoms. In areas where high levels of hepatitis A virus circulate, the number of reported cases in the local population is usually low because asymptomatic childhood infections confer lifelong immunity.

Surveillance and Survey Data: Most Iraqis contract hepatitis A virus infection during childhood.

Typhoid / paratyphoid fever

Risk Assessment:

- A small number of cases [redacted] could occur among unvaccinated personnel consuming local food, water, or ice. (b)(3):10 USC 424;(b)(3):50 USC 3024(i)
- Debilitating febrile illness typically requiring 1-7 days of inpatient care, followed by return to duty.

Risk Period: Year-round; risk is elevated during warmer months.

Risk Distribution: Countrywide (including urban areas); risk is elevated in populated areas with poor sanitation.

Typical Incubation Period: 8 to 14 days (maximum range: 3 to 30 days)

Epidemiology Comments: Typhoid and paratyphoid are clinically similar, and in endemic areas typhoid typically accounts for 90 percent of cases. Asymptomatic carriers are common with typhoid and contribute to sustained transmission. In countries where hygiene and sanitation are poor or nonexistent, adult cases and outbreaks are rare because of immunity acquired in infancy or early childhood. In countries with a mixture of primitive and modern sanitation and hygiene, outbreaks of typhoid fever occur and may involve all age groups.

Human Outbreak Information: Although specific data are lacking, outbreaks are reported periodically throughout the country.

Foodborne and Waterborne Diseases of Intermediate Risk

Click on disease for additional information	Potential rates per month in the absence of countermeasures
Brucellosis	(b)(3):10 USC 424;(b)(3):50 USC 3024(i)
Diarrhea - cholera	
Diarrhea - protozoal	
Hepatitis E	

Vector-borne Diseases of Intermediate Risk

The seasonality and geographic distribution of vector-borne diseases may vary considerably. Click on the disease for details

Overview:

During warmer months (typically April through November), ecological conditions support populations of arthropod vectors, including mosquitoes, ticks, and sand flies, with variable rates of disease transmission.

Plasmodium vivax malaria occurs at low levels in some rural areas. In addition, a variety of other vector-borne diseases occur at low or unknown levels, which as a group may constitute a significant risk. Personnel exposed to mosquitoes, ticks, sand flies, or other biting vectors are at risk during day or night.

Click on disease for additional information	(b)(3):10 USC 424;(b)(3):50 USC 3024 (i)
Crimean-Congo hemorrhagic fever	
Leishmaniasis - cutaneous	
Leishmaniasis - visceral	
Malaria	
Plague	
Rickettsioses, tickborne (spotted fever group)	
Sand fly fever	
West Nile fever	

Other Diseases of Intermediate Risk

Click on disease for additional information	(b)(3):10 USC 424;(b)(3):50 USC 3024 (i)
Sexually Transmitted Diseases	
Gonorrhea / chlamydia	
HIV/AIDS	
Hepatitis B	
Water-contact Diseases	
Leptospirosis	
Schistosomiasis	
Respiratory Diseases	
Tuberculosis Tuberculin skin test (TST) conversion rates may be elevated over baseline for personnel with prolonged close exposure to local populations	
Animal-contact Diseases	
Anthrax	
Q fever	
Rabies	

List of Diseases of Low Risk

Meningococcal meningitis
Sindbis (Ockelbo) virus
Typhus - murine (fleaborne)

Administrative Notes

(b)(3):10 USC 424

This report contains information as of 02 January 2004. This document, published under the auspices of the Department of Defense Intelligence Production Program (DoDIPP), reflects the Defense Intelligence Production Community position. The Defense Intelligence Agency's Armed Forces Medical Intelligence Center produced it as the designated DoDIPP producer for this subject.

This publication supersedes Infectious Disease Risk Assessment: Iraq, DI-1812-IRQ-03, dated December 2003, which should be destroyed.

(b)(3):10 USC 424;(b)(3):50 USC 3024(i)

(b)(3):10 USC 424

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(U) Infectious Disease Risk Assessment: Iraq

January 2004
(b)(2)
Information Cutoff Date: 02 January 2004

Key Judgments

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Foodborne And Waterborne Diseases	Diarrhea - bacterial, Hepatitis A, Typhoid / paratyphoid fever
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(b)(1),Sec. 1.4(e)

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(b)(2)

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The diseases of high risk are listed first, in descending order of expected impact. Diseases of intermediate risk, with a lower or unknown likelihood to degrade operations, are listed alphabetically in tabular form.

Diarrhea - bacterial

Risk Assessment:

- An operationally significant attack rate (b)(1),Sec. 1.4(c),Sec. 1.4(e) could occur among personnel consuming local food, water, or ice. Field conditions (including lack of handwashing and primitive sanitation) may facilitate person-to-person spread and epidemics.
- Typically mild disease treated in outpatient setting; recovery and return to duty in less than 72 hours with appropriate antibiotic therapy.

Risk Period: Year-round

Risk Distribution: Countrywide (including urban areas)

Typical Incubation Period: 1 to 3 days

Epidemiology Comments: In general, bacterial agents such as enterotoxigenic E. coli, Campylobacter, Shigella, and Salmonella are the most common causes of "traveler's diarrhea" wherever sanitary conditions are significantly below US standards.

Hepatitis A

Risk Assessment:

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Surveillance and Survey Data: Most Iraqis contract hepatitis A virus infection during childhood.

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Leishmaniasis - cutaneous	
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Rickettsioses, tickborne (spotted fever group)	
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West Nile fever	

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Click on disease for additional information	Potential rates per month in the absence of countermeasures
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HIV/AIDS	
Hepatitis B	
Water-contact Diseases	
Leptospirosis	
Schistosomiasis	
Respiratory Diseases	
Tuberculosis Tuberculin skin test (TST) conversion rates may be elevated over baseline for personnel with prolonged close exposure to local populations	
Animal-contact Diseases	
Anthrax	
Q fever	
Rabies	

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Administrative Notes

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(b)(2)

This product responds to JS/J-4 (Joint Staff Surgeon) production requirement (b)(2)

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