TOPIC: AIRBORNE PATHOGENS

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Legionella, a gram-negative aerobic bacillus, was first identified in 1976 following an outbreak of pneumonia among legionnaires in Philadelphia. *Legionella pneumophila* still accounts for the majority of outbreaks of legionellosis, although infections due to other *Legionella* species continue to occur, including clusters of nosocomial infections.

A multisystemic illness, legionellosis is characterized by pneumonia, high fever, rigors, cough, myalgia, headache, chest pain, diarrhea, and confusion. Pontiac fever, a syndrome of *L. pneumophila* infection, presents with many of the above symptoms, but without the accompanying pneumonia.

Legionellae are widely distributed in the environment and in fresh water. The best-documented mode of transmission is by air, apparently through the inhalation of contaminated droplet nuclei; no person-to-person transmission has been documented.¹

Hantaan virus is the causative agent of Korean hemorrhagic fever and was first isolated in 1978. Hantaan was the prototype of hantaviruses, a recently recognized genus within the family Bunyaviridae. Another hantavirus, Seoul virus, is found worldwide in *Rattus norvegicus* and has been documented in the US.² In addition, two other viruses are known to be indigenous to US rodents: Prospect Hill virus in the meadow vole and Sin Nombre in *Peromyscus maniculatus*. Other reservoirs for hantavirus are the white-footed mouse, *Peromyscus leucopus*, in the northeastern US and *Sigmodon hispidus*, which has been shown to harbor another hantavirus closely associated with Sin Nombre.³

Similar to *Legionella*, transmission of hantavirus appears to be solely through the airborne route; again, no person-to-person transmission has been documented.⁴ More than 100 cases have been documented in the US to date; the majority of cases identified occurred west of the Mississippi and were clustered primarily in the Southwest (CDC surveillance data, communication of May 7, 1997). An increasing exposure to rodent habitat has increased the risk of viral transmission to humans.

Programs to combat airborne infectious diseases should include surveillance, response, and partnerships with others outside the public health community. The surveillance system should be able to (1) provide endemic rates of diseases,

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(2) detect clusters, (3) document changes in demographics and geographic distribution of cases, (4) describe the natural history of the disease, and (5) guide health professionals in disease intervention. The system should be sustained by the cooperative efforts of health care providers, clinical laboratories, and health facilities, as well as by cooperation from congregate facilities such as jails and prisons, day-care centers, and shelters for the homeless.

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TOPIC: SEXUALLY TRANSMITTED DISEASES

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Few areas of medicine and public health have been more dynamic in recent years than the field of sexually transmitted diseases (STDs). During the past two decades, this discipline broadened from one that emphasized the "traditional" diseases, such as syphilis and gonorrhea, to one concerned with numerous bacterial and viral syndromes, including, but not limited to, chlamydia, herpes simplex, human papilloma virus, and HIV, the dominant disease.

Numerous organisms and syndromes previously not recognized as being transmitted sexually now are. Though STDs are extremely diverse, they are inter-related historically, biologically, economically, behaviorally, and programmatically.

Syphilis is the classic STD that is cyclic in nature and that can be controlled by vigorous public health interventions. In the US, the incidence of primary and secondary syphilis reached a peak of 76 cases per 100,000 after World War II and then began to fall, reaching a nadir of approximately 4 cases per 100,000 in the years 1955 to 1958.¹ In 1959, the incidence began to rise rapidly in both men and women, to 12 cases per 100,000—triple the level of a decade earlier.² Factors that, at the time, were considered responsible for this increase included declining

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