

Infectious Disease

Section Overview

Controlling infectious disease has been a major achievement of public health during the past 150 years. Communicable diseases such as tuberculosis, polio, and diphtheria no longer cause thousands of deaths in the United States. But the need to maintain effective control of these diseases is greater than ever before.

This section describes diseases that can be passed from one organism to another—often from one human to another. It includes chapters on

- [Sexually Transmitted Infections](#)
- [HIV/AIDS](#)
- [Hepatitis \(focus on hepatitis C\)](#)
- [Childhood and Adult Immunizations](#)
- [Tuberculosis](#)
- [Emerging Infectious Diseases](#)

Highlights and Discussion

Most infections are transmitted close to home, often in intimate situations. More cases of chlamydial infection are reported every year than any other disease; in 2006, 17,447 cases were diagnosed in Washington and reported through January 2007. Most cases occurred in young women, who are the focus of screening efforts. Young men probably also experience significant morbidity but are not diagnosed as often as women. Washington's most recent positive chlamydia rate for 15–24 year-olds screened in sexually transmitted disease (STD) and reproductive health clinics was 7.6%, more than twice the *Healthy People 2010* target.

Cases of gonorrhea and primary and secondary syphilis have also increased in recent years. As with chlamydia, gonorrhea is concentrated in 15–24 year-old women. There are few cases of syphilis, and these are concentrated among men 25 years and older living in urban areas. Gonorrhea infections in men show a similar pattern. There is a higher occurrence of both syphilis and gonorrhea among men who have sex with men.

Unprotected sex is the primary mode of human immunodeficiency virus (HIV) exposure in Washington. Seventy-two percent of recently diagnosed HIV cases were associated with male-

to-male sexual contact (which includes those who also inject drugs) and 13% with high-risk heterosexual contact. Most HIV cases were diagnosed in people older than 25, and there have been substantial recent increases among people 40–49 years old. As with gonorrhea and syphilis, cases are concentrated in urban areas. Blacks are the most disproportionately affected racial group, with case rates more than six times those of whites. Washington disease rates are increasingly affected by foreign-born blacks who move to the state from countries (especially in sub-Saharan Africa) with high burdens of disease.

There is a continuing need to reach populations at risk with intensified and expanded prevention, including routine screening for HIV infection, treatment, and partner services of all sexually transmitted diseases. Even when a disease is not curable, such as HIV, ongoing care can augment prevention, and treatment can slow the spread of infection.

Sharing injection equipment among drug users is not the primary way HIV is transmitted in Washington, but it is responsible for much of the ongoing transmission of the hepatitis C virus (HCV). HCV is the most common bloodborne pathogen. State data on HCV are incomplete, but national data indicate that the most common way HCV is transmitted is by sharing needles or other equipment when injecting drugs. While rates of acute HCV have decreased dramatically since blood product screening was improved in the 1990s, high hospitalization and death rates among HCV-infected people indicate that health consequences of the disease will continue to be seen. Identifying people at risk of HCV, screening these individuals, and treating them will reduce the further spread of disease.

People can be exposed to infectious diseases in the community. Immunizations are among public health's most significant achievements, and communities with high numbers of immunized individuals generally have lower levels of vaccine-preventable disease. Immunizations protect against diseases such as diphtheria, tetanus, pertussis, measles, mumps, rubella, polio, *Haemophilus influenzae* type b, hepatitis A and B, varicella, influenza, and pneumococcal disease. But Washington's immunization coverage level for routinely recommended childhood immunizations is estimated to be 66%, lower than the national

rate of 76%. Barriers include families not knowing immunization schedules, families experiencing multiple moves and multiple health care providers, lack of access to primary care, lack of transportation, and family member(s) having philosophical objections to some immunizations.

In 2006, about 71% of Washington adults 65 and older were immunized against influenza, and an estimated 70% were immunized against pneumococcal disease. Education and access will be important tools if all state residents are to be immunized consistent with national recommendations.

Tuberculosis can be acquired from others and is transmitted when a person with pulmonary or laryngeal tuberculosis coughs or sneezes, expelling droplets into the air. People at the highest risk of becoming infected are those who have come in close contact with people who have infectious tuberculosis. Cases in Washington decreased steadily during the 1940s to mid-1980s. These decreases were attributed to better living conditions, reduced crowding, improved nutritional status, and introduction of effective chemotherapy. Since the mid-1980s, cases have remained stable at about 250–300 per year. In the current era, foreign-born people from high-risk countries in Asia, Africa, and Latin America have accounted for an increasing proportion of cases (up to 73% in 2006 in Washington State). People from Vietnam, Mexico, and the Philippines accounted for half of these cases. Effective intervention requires prompt recognition of disease, treatment of infected individuals, appropriate follow-up and treatment of contacts, and treatment of latently infected individuals.

International travel increases the risk of acquiring infectious diseases far away and spreading them to close contacts here at home. In Washington in recent years, travelers have acquired typhoid fever, malaria, dengue fever, measles, Japanese encephalitis, African tick bite fever, and hepatitis E.

New infectious diseases and infectious agents continue to be discovered. These include Legionnaires' disease, hemorrhagic fever viruses such as Lassa and Ebola, methicillin resistant *Staphylococcus aureus* and toxic shock syndrome, hepatitis viruses, HIV/AIDS, Kaposi's Sarcoma virus (HHV-8), hantavirus, and Lyme disease. In recent years, public health agencies have been focusing attention on outbreaks of new diseases such as severe acute respiratory syndrome (SARS), pandemic influenza, and West Nile virus. In a world where infectious agents can travel

easily from one part of the globe to the other, we continue to be threatened by emerging and re-emerging infectious diseases. While there has been great progress in controlling communicable diseases, we should not be complacent. Exposures to disease can take place whether we are in the privacy of our own homes, participating in the activities of daily life in our communities, or traveling to other parts of the globe.