

## EMERGING INFECTIOUS DISEASES

### WHAT IS THE PUBLIC HEALTH ISSUE?

- Infectious diseases are a leading cause of death worldwide and are a continuing threat to our nation's health. The outbreaks of severe acute respiratory syndrome (SARS) and West Nile virus (WNV) are recent reminders of the ongoing threat of infectious diseases.
- Some infectious diseases, like influenza, are familiar foes that have affected humans for centuries. Others, like WNV, monkeypox, and SARS, are new or emerging threats. More than 35 newly emerging infectious diseases were identified between 1973 and 2000, and new infectious disease threats continue to be identified. The current public health challenge includes responding to the extraordinary ability of microbes to adapt, evolve, and develop drug-resistance, as well as addressing the implications of changes in demographics and human behaviors.
- SARS demonstrated that U.S. health and global health are inextricably linked and that fulfilling CDC's domestic mission—to protect the health of the U.S. population—requires global awareness and collaboration with international partners to prevent the emergence and spread of infectious diseases. Microbes constitute a global threat that puts every nation and every person at risk.

### WHAT HAS CDC ACCOMPLISHED?

Since 1994, CDC strives to revitalize national capacity to protect the public from infectious disease. Safeguarding U.S. health also requires international action and cooperation, because U.S. health and global health are inextricably linked. U.S. citizens and foreign governments alike have come to rely on CDC for help and information. CDC's strategy to revitalize capacity to protect the public from infectious disease threats focuses on four goals: Surveillance and Response: to detect, investigate, and monitor emerging pathogens, the diseases they cause, and the factors influencing their emergence; Applied Research: to optimize public health practice; Infrastructure and Training: to strengthen our nation's public health capacity for outbreak detection and response; and Prevention and Control: to ensure prompt implementation of prevention strategies and enhance communication of public health information about emerging diseases.

CDC's response to the 2003 SARS outbreak demonstrates successful work toward these goals. Within a month of receiving clinical specimens for analysis, CDC scientists isolated, typed, and sequenced the genome of the SARS coronavirus, working closely with coronavirus experts around the globe. Using this collective knowledge, CDC researchers worked to develop specific diagnostic tests for SARS, and are currently refining these tests and distributing them to collaborating public health laboratories nationwide. CDC coordinated and mobilized more than 800 staff in the SARS response, and rapidly disseminated information to the public about prevention, diagnosis, treatment, and control of SARS via the Internet, CDs, press conferences, and live, worldwide satellite broadcasts. Nearly two million health professionals in China received essential SARS information this way.

### WHAT ARE THE NEXT STEPS?

Emerging infectious diseases are cause for increasing concern. A 2003 Institute of Medicine report, *Microbial Threats to Health: Emergence, Detection, and Response*, recognizes that while we have made dramatic advances in the prevention and control of infectious diseases, the magnitude and urgency of the problem require renewed concern and commitment. The report emphasizes the need for CDC to further enhance global response capacity and improve global infectious disease surveillance. CDC's strategies to combat infectious diseases will focus on increasing preparedness to address the emergence of dangerous new threats by investing in and building upon the public health system that was established over a century ago.