

## LYME DISEASE

### WHAT IS THE PUBLIC HEALTH ISSUE?

- Lyme disease, an infection that is commonly spread through ticks, is the most prevalent vector-borne infectious disease in the United States.
- More than 23,000 cases were reported to CDC in 2002, but many more cases are unreported.
- If not diagnosed and treated in its early stages, Lyme disease can result in serious complications, such as arthritis, neurological abnormalities, and rarely, cardiac problems.
- Laboratory testing for Lyme disease has improved, but greater understanding is needed of its performance in clinical practice.
- New, environmentally safe and cost-effective approaches to control ticks are also needed.

### WHAT HAS CDC ACCOMPLISHED?

CDC's Lyme disease prevention and control activity is a science-based program of education, research, and service conducted in partnership with other federal agencies, state and local health departments, and other nonfederal organizations. CDC supports national surveillance, epidemiologic response, field and laboratory research, consultation, and educational activities through intramural initiatives. CDC also funds collaborative studies on community-based prevention methods, improved diagnosis and understanding of pathogenesis, tick ecology, and development and testing of new tools and methods for tick control.

CDC has initiated several extramural and intramural efforts to develop and disseminate education materials that promote Lyme disease prevention. With funding from a CDC cooperative agreement for Lyme disease education, Connecticut Public Television produced an award-winning 1999 documentary on Lyme disease. CDC funds also enabled the Massachusetts Department of Public Health to create a physician's reference manual on tick-borne diseases in 2003.

CDC has mapped the national distribution and risk for Lyme disease and has defined environments, activities, and behaviors that place people at high risk of infection. CDC has developed new and effective devices and methods for preventing infection and safely reducing vector ticks in the environment, such as insecticide-treated rodent bait boxes.

### WHAT ARE THE NEXT STEPS?

Lyme disease and other emerging tick-borne infectious diseases are cause for increasing concern with regard to public health and safety in the outdoor environment. CDC's program for 2004 and beyond emphasizes the goal of working with Lyme disease endemic communities to develop a wide assortment of practical, integrated tick control strategies for their use in preventing Lyme disease. Such strategies include environmental management, biological and chemical control of ticks, and enhanced personal protection through tick avoidance and other measures. Areas of research include the development of natural forest products for use as environmentally acceptable alternatives in pest control, deer- and rodent-targeted methods of insecticide application, further efforts to predict Lyme disease risk on a national scale, and further understanding of host immune responses to infection with the Lyme disease bacterium.