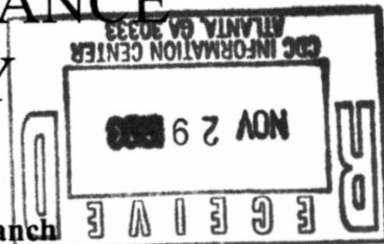


LYME disease



SURVEILLANCE SUMMARY



Bacterial Zoonoses Branch
Division of Vector-Borne
Infectious Diseases
National Center for Infectious Diseases
Centers for Disease Control
and Prevention

Volume 4 -- : No. 5

Date: November 1993

CDC LYME DISEASE EXTRAMURAL RESEARCH AND EDUCATION PROGRAM

Funding of Previous Work

The Division of Vector-Borne Infectious Diseases recently responded to a request for information on the funding of the CDC Lyme Disease Extramural Research and Education Program. This response included an outline of support to Cooperative Agreements. This information is in the public domain, and we consider that it may be useful to the readership of the **Lyme Disease Surveillance Summary**. CDC is gratified by the success of the Lyme disease Cooperative Agreement projects, and has benefitted greatly from the collaboration. Table 1 lists the recipients of CDC funding and gives a narrative description of the projects conducted. Table 2 lists the amount of funds expended for each project.

New Cooperative Agreement Funding Cycle Anticipated

The DVBID is pleased to announce the availability of \$2,700,000 to be used in funding the first year of a new 3-year cycle of competitive Cooperative Agreements to conduct research on Lyme disease. Public and private non-profit organizations, universities, state and local health departments and research institutes are eligible to apply. It is anticipated that Program Announcement #400 will be published in the **Federal Register** by early to mid-December 1993. Applications will be due in the Procurement and Grants Office at the Centers for Disease Control and Prevention in Atlanta, GA on or about January 31, 1994. Specific instructions for application format, structure, contents, mailing instructions, etc., will be detailed in the announcement. Individual application packets may be obtained by writing to Mr. Locke Thompson (RE: Program Announcement #400), Centers for Disease Control and Prevention, Procurement & Grants Office, Mailstop E18, Atlanta, GA 30333.

Postdoctoral Position Available

The Lyme disease research group at the Centers for Disease Control and Prevention in Fort Collins, CO has a postdoctoral research position available for the study of the immune response to *B. burgdorferi* in a model using natural tick transmission of infection to mice. Experience in basic immunology and molecular biology techniques is required and knowledge of vector biology and/or microbial pathogenesis is desirable. The position is funded by a Collaborative Research and Development Agreement between CDC and SmithKline Beecham Animal Health. Salary is commensurate with experience. Please send curriculum vitae and three letters of reference to Dr. William T. Golde, Division of Vector-Borne Infectious Diseases, CDC, P.O. Box 2087, Fort Collins, CO 80522.

Serology of *Borrelia burgdorferi* in White-Tailed Deer--An Update

The Vertebrate Ecology Section, Medical Entomology and Ecology Branch, DVVID, has been cooperating with Dr. James Gill of the Microbiology Department, University of Minnesota (UM), to perfect the ELISA test for serology of *B. burgdorferi* in white-tailed deer. In our first study, we demonstrated that white-tailed deer generated an antibody response against *B. burgdorferi* that is detectable by the ELISA test and confirmed by Western immunoblotting conducted at UM and concluded that deer are potential sentinel animals for serologic surveillance (Gill et al. 1993. J Clin Microbiol 31:318-322). In the second study, we found that deer are excellent sentinels for *B. burgdorferi* in Minnesota and could be used to assess the risk of acquiring Lyme disease. The deer seropositivity rates closely coincided with *I. scapularis* population boundaries. We found that fawns should be excluded from surveillance because both yearling and adult deer had higher seropositivity rates. The primary advantages of using deer are (1) the ease of obtaining samples through hunter cooperation; (2) the limited range of movement of deer; (3) the attraction of deer for the *Ixodes* tick species; (4) the vigorous immune response against *B. burgdorferi* in deer; (5) relatively long-lived animal for multiple exposure to *B. burgdorferi*; and (6) the cost effectiveness of this method over more labor intensive methods of tick collection, rodent sampling, and isolation and identification of spirochetes. However, the labor intensive methods may be necessary in areas or states in which the presence of *I. scapularis* (or other *Ixodes* tick vector species) or *B. burgdorferi* has not been established. A similar cooperative study on ELISA serology of white-tailed deer populations in Pennsylvania has been in progress with Drs. Jan Humphreys and Rex Lord at Indiana University of Pennsylvania for the past three years. The seropositivity rates in Pennsylvania deer also generally coincided with the distribution of *I. scapularis* and endemic Lyme disease within the state.

Erratum

LDSS (1993;V4(N4):2) contained a mistake in the note describing the newly discovered enzootic cycle of *Borrelia burgdorferi* in Colorado. The last sentence of the last paragraph of this note should read: "In Colorado, *Dermacentor andersoni* readily feeds on humans and is known to parasitize rodents involved in this newly described transmission cycle; the closely related species, *D. variabilis* and *D. occidentalis*, are considered incompetent transmitters of *B. burgdorferi*."

AGREEMENTS

American Lyme Disease Found.
California Health Dept.
Connecticut Arthritis Foundation
Connecticut Health Dept.

Cornell University
Council of State & Territorial Epidem.
Lyme Disease Foundation
Marshfield Clinic
Medical College of Georgia

Michigan Health Dept.
New England Medical Center
New Jersey Health Dept.
New Jersey Medical School
New York Medical College (Bucher)
New York Medical College (Fish)
New York State Dept. of Health
New York State Dept. of Health (1)
Penn State University

Rhode Island Health Dept.
Seatuck Foundation
Tulane University
University of California, Berkeley
University of New York-Stony Brook
Virginia Health Dept.
Yale School of Medicine

Grant

RESEARCH TOPICS

U50/CCU206603	Development & distribution of educational materials (videos, PSAs & brochures)
U50/CCU906612	Surveillance & epidemiologic studies of Lyme disease in California
U50/CCU106623	Development & distribution of educational materials (videos, PSAs & brochures)
U50/CCU106598	Surveillance & epidemiologic studies of Lyme disease in Connecticut;
	development & distribution of educational materials (videos & teaching modules)
U50/CCU206642	Studies on the ecology and control of Lyme disease vectors
U50/CCU106562	Evaluation of national Lyme disease surveillance
U50/CCU106595	Development & distribution of educational materials (videos, PSAs & brochures)
U50/CCU506616	Development of improved diagnostics; devel. & distribution of ed. materials (videos, PSAs & brochures)
U50/CCU406614	Epidemiology & ecologic studies of Lyme disease; determine vectors of
	B. burgdorferi in southern US
U50/CCU506636	Surveillance & ecologic studies of Lyme disease in Michigan
U50/CCU106615	Development of diagnostic tests and studies of pathogenesis
U50/CCU206567	Studies on the control of Lyme disease in NJ; education
U50/CCU206582	Evaluation of immune complexes in laboratory diagnosis of Lyme disease
U50/CCU206605	Diagnostic laboratory test development (antigen detection methods)
U50/CCU206626	Studies on the ecology, prevention & control of Lyme disease
U50/CCU206575	Development & distribution of educational materials (videos, PSAs & brochures)
U50/CCU204900	Surveillance & epidemiological studies of Lyme disease in NY State
U50/CCU306618	Studies on the distribution & ecology of Lyme disease in PA;
	development and distribution of educational materials (videos, PSAs, & teaching modules)
U50/CCU106585	Lyme disease surveillance and education in Rhode Island
U50/CCU206621	Development of strategies for control of Lyme disease
U50/CCU606604	Primate model of Lyme disease; studies of pathogenesis & immunology
U50/CCU906594	Ecologic studies of Lyme disease in CA
U50/CCU206608	Diagnostic test development & immunologic studies of Lyme disease
U50/CCU306589	Surveillance, epidemiologic & ecologic studies of Lyme disease in VA and NC
U50/CCU106581	Development of diagnostic tests using recombinant proteins

COOPERATIVE AGREEMENTS

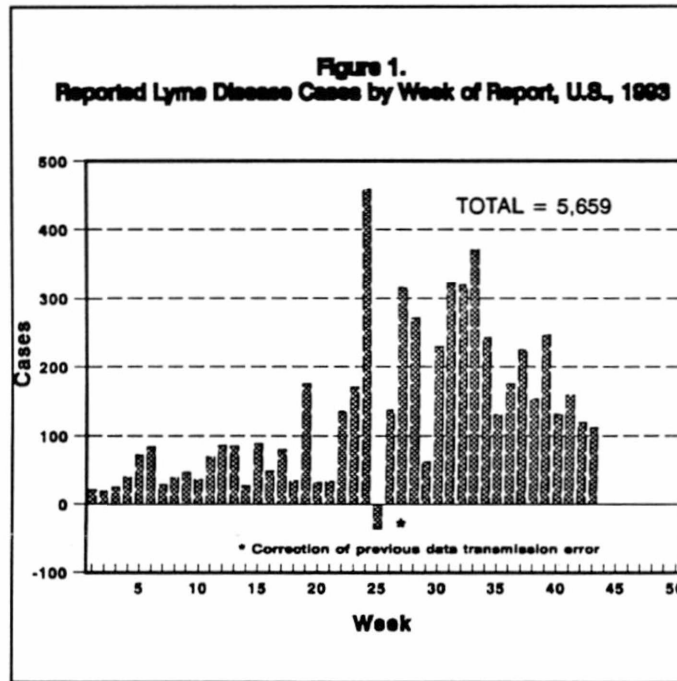
Grant #

American Lyme Disease Found.	U50/CCU206603
California Health Dept.	U50/CCU906612
Connecticut Arthritis Found.	U50/CCU106623
Connecticut Health Dept.	U50/CCU106598
Cornell University	U50/CCU206642
Council of State & Territorial Epidem.	U50/CCU106562
Lyme Disease Foundation	U50/CCU106595
Marshfield Clinic	U50/CCU506616
Medical College of Georgia	U50/CCU406614
Michigan Health Dept.	U50/CCU506636
New England Medical Center	U50/CCU106615
New Jersey Health Dept.	U50/CCU206567
New Jersey Medical School	U50/CCU206582
New York Medical College (Bucher)	U50/CCU206605
New York Medical College (Fish)	U50/CCU206626
New York State Dept. of Health	U50/CCU206575
New York State Dept. of Health (1)	U50/CCU204900
Penn State University	U50/CCU306618
Rhode Island Health Dept.	U50/CCU106585
Seatuck Foundation	U50/CCU206621
Tulane University	U50/CCU606604
University of California, Berkeley	U50/CCU906594
University of New York-Stony Brook	U50/CCU206608
Virginia Health Dept.	U50/CCU306589
Yale School of Medicine	U50/CCU106581

TOTAL

FY 90	FY91	FY92	FY93	TOTAL
	\$100,000	\$119,999	\$106,067	\$326,066
	\$136,884	\$137,001	\$107,693	\$381,578
	\$17,594	\$18,578	\$10,450	\$46,622
	\$142,101	\$161,343	\$167,426	\$470,870
	\$30,107	\$51,575	\$53,796	\$135,478
	\$74,994	\$0	\$0	\$74,994
	\$198,948	\$211,837	\$179,386	\$590,171
	\$50,302	\$58,919	\$41,293	\$150,514
	\$65,807	\$83,275	\$98,863	\$247,945
	\$41,801	\$60,576	\$65,384	\$167,761
	\$94,185	\$96,358	\$96,358	\$286,901
	\$81,023	\$81,120	\$93,405	\$255,548
	\$90,553	\$36,450	\$36,450	\$163,453
	\$78,266	\$98,266	\$115,615	\$292,147
	\$155,884	\$143,783	\$139,002	\$438,669
	\$99,214	\$223,111	\$209,999	\$532,324
\$250,000	\$117,552	\$0	\$0	\$367,552
	\$136,740	\$160,751	\$144,329	\$441,820
	\$73,213	\$73,007	\$76,647	\$222,867
	\$143,031	\$145,148	\$145,112	\$433,291
	\$146,026	\$217,880	\$238,514	\$602,420
	\$72,849	\$76,336	\$75,606	\$224,791
	\$159,725	\$164,285	\$166,902	\$490,912
	\$164,896	\$165,728	\$173,395	\$504,019
	\$170,755	\$131,786	\$156,737	\$459,278
<hr/>				
\$250,000	\$2,642,450	\$2,717,112	\$2,698,429	\$8,307,991

The numbers of Lyme disease cases reported through NETSS in the period January through October 30, 1993 are shown in Figure 1. Of the total 5,659 cases reported through Week 43, 4,425 (78%) were reported from the mid-Atlantic and New England regions. Upstate New York and Pennsylvania have reported 2,202 (39%) of cases during this 1993 period.



Lyme Disease Surveillance Summary (LDSS) is edited by Drs. Roy Campbell and David Dennis. If you have information to contribute or wish to receive a **LDSS**, please contact them at:

CDC/DVBID
Lyme Disease Surveillance Summary
P.O. Box 2087
Fort Collins CO 80522