CDC

LYME DISEASE SURVEILLANCE SUMMARY

BACTERIAL ZOONOSES BRANCH
DIVISION OF VECTOR-BORNE
INFECTIOUS DISEASES
CENTER FOR INFECTIOUS DISEASES
CENTERS FOR DISEASE CONTROL

VOLUME 2 - NO. 3
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PROVISIONAL DATA FOR REPORTED LYME DISEASE CASES - 1990

Cases of Lyme disease (LD) reported by States to CDC for 1990 were collated during early April. As in previous years, these data are published provisionally with the expectation that updated reports will continue to arrive over the next few months. The provisional total of 7,995 cases for 1990 is 557 cases (6.5%) less than the final total of 8,552 reported in 1989 (Table 1). In previous years, over 500 late reports have been received after publication of the first provisional figure.

From 1986 through 1989, nationally reported cases of Lyme disease doubled or nearly doubled each year (Fig. 1). The provisional 1990 data mark a halt in this trend. This may reflect a plateau in case detection, decreased reporting by physicians, or the use of more stringent criteria in defining cases. The new CDC Lyme disease case definition was adopted by the Council of State and Territorial Epidemiologists at its national meeting in April 1990 and became the standard for national reporting in January 1991. Information on the case definition used by each state during 1990 is not yet available.

The geographic distribution of Lyme disease cases among the 50 states (Fig. 2), and the provisional number of reported cases by federal geographic region (Table 2) show increased reporting from the mid-Atlantic, Pacific, west north-central and east south-central regions. Decreases in reported cases are noted in the northeast, south-Atlantic, west south-central and mountain states. Crude incidence rates by region ranged from a high of 12.9 cases per 100,000 population in the mid-Atlantic states to a low of 0.10/100,000 in the mountain states (Fig. 3).

Data on secular trends by region from 1982 through 1990 are presented graphically in Figs. 4-12. In the mid-Atlantic region, New Jersey and New York reported increases in cases, and Pennsylvania reported a modest decrease (Fig. 4). The decrease in cases in the northeast region reflects decreased numbers reported from Connecticut, Massachusetts, and Rhode Island. The incidence in Rhode Island fell from being the highest in the nation in 1989 to fourth highest in 1990 (Table 3).

The south-Atlantic region showed a decrease of 350 cases in spite of substantial increases in cases reported by Delaware, Maryland, and Virginia. This reflects a marked decrease in cases reported by Georgia (Fig. 6).

In the east north-central region, modest increases were reported from Indiana and Ohio, while decreased numbers were reported from Illinois, Michigan, and Wisconsin.

Lyme disease activity in the Pacific region is greatest in California. The 345 cases reported from California account for nearly all of the regional increase in 1990.

In the west north-central region, reports in 1990 increased by 20%. The increase occurred as a result of a near doubling of reported cases from Missouri (from 107 cases to 205 cases).

The remaining three regions (west south-central, east south-central and mountain) each reported under 100 cases for 1990 (Figs. 10, 11, 12). Of these regions, only the west south-central region has ever reported more than 100 cases in a single year.

REPORTING OF LYME DISEASE CASES IN 1991 BY NETSS

The NETSS network for reporting of Lyme disease and other diseases to CDC has been collecting data since early January. A frequency distribution of reported cases by week is shown in Fig. 13. Of the total 1,263 cases reported through Week 15, 1,009 (80%) were reported from the mid-Atlantic region. Upstate New York reported 845 cases (67% of the national total).

LYME DISEASE HOTLINE - UPDATED AND ON-LINE

The Lyme disease Hotline, instituted in the Summer of 1990, has been revised and updated with information. Individuals with touch tone telephones can utilize this information by dialing **404-332-4555** to reach the Voice Information Service at CDC in Atlanta. Pressing the appropriate touch tone numbers when requested to do so will connect the caller with general and topic-specific information on Lyme disease as well as a number of other infectious disease problems. Normal long distance service rates are charged to the caller's phone by his/her telephone service provider. The help of our LDSS readers in publicizing the availability of this service and the telephone number will be appreciated again this year.

THE CENTERS FOR DISEASE CONTROL PROGRAM FOR PREVENTION AND CONTROL OF LYME DISEASE

The primary objectives of the CDC Lyme disease program are to develop more effective methods of detection, prevention and control, leading to a reduction in the incidence of infection and disease.

Major activities of the CDC program are listed as follows:

- Develop a standardized national surveillance system that will accurately measure incidence and distribution of Lyme disease.

- Carry out surveys to accurately define the distribution and spread of the disease agent, vertebrate reservoir hosts and tick vectors.

- Develop, implement, and evaluate innovative approaches to educate the lay and medical communities about Lyme disease, its diagnosis, treatment and prevention.

- Conduct epidemiologic studies in different regions and different ecologic settings to identify risk factors associated with Lyme disease transmission.

- To develop better diagnostic tests for Lyme disease by exploiting available technology; to standardize diagnostic testing; and, to implement national proficiency testing of laboratories performing Lyme disease diagnostic testing.

- To use molecular biologic techniques to better understand the biology of the spirochete and the pathogenesis of infection, to develop improved approaches to diagnosis, and to identify candidate immunogens for vaccine development.

- Establish a Lyme disease reference center, which will characterize and maintain isolates of Borrelia burgdorferi, other Borreliae species, and reference sera.

- Conduct detailed field studies in hyperendemic areas of the northeast aimed at developing effective prevention strategies using integrated management practices.

- Conduct trials to evaluate chemical control of tick vectors, using area application, targeted application, topical and systemic acaricides.

This work is being carried out in collaboration with state and local health departments, Council of State and Territorial Epidemiologists (CSTE), Association of State and Territorial Public Health Laboratory Directors (ASTPHLD), and with other federal agencies and academic institutions including Schools of Public Health, and private non-profit organizations where appropriate. Collaborative work will be supported through the use of cooperative agreements, grants and contracts.

PROPOSALS FOR COOPERATIVE AGREEMENTS FOR LYME DISEASE RESEARCH SUBMITTED IN 1991

A previous edition (Vol 2. - No. 1) described the availability through Congressional funding of approximately $2,700,000 for Lyme disease research cooperative agreements during fiscal year 1991. A public announcement requesting proposals was published in the Federal Register in February 1991, and 77 eligible proposals were received. The budgets accompanying these proposals for the first year of federal funding totalled nearly $14,000,000, more than five times the amount of the appropriation available.

The majority of these proposals, 46 (56%), were submitted by academic centers. Private foundations or institutions prepared 16 proposals (21%), state or local health departments submitted 14 proposals (18%), and other state or local government agencies submitted 4 proposals (5%).

The 77 submitted proposals contained 100 categorical projects distributed as detailed in the following table.

Frequency distribution of the 100 categorical projects contained in the 77 proposals, by project type

Project type	Frequency (and %)
Ecologic	32
Educational	25
Surveillance/Epidemiologic	19
Diagnostic	11
Prevention/Control	7
Clinical	2
Microbiologic	2
Pathology/pathogenesis	2

Lyme Disease Surveillance Summary (LDSS) is edited by Drs. Robert Craven 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 805222

TABLE 1
REPORTED LYME DISEASE CASES - UNITED STATES

STATE	CASES (FINAL) 1989	CASES (PROVISIONAL) 1990
AL	25	33
AK	0	0
AZ	0	0
AR	10	22
CA	250	345
CO	1	0
CT	774	704
DE	25	54
DC	0	5
FL	6	6
GA	715	161
HI	1	2
ID	42	5
IL	79	30
IN	8	15
IA	27	16
KS	15	14
KY	21	18
LA	2	3
ME	3	6
MD	138	243
MA	129	117
MI	165	122
MN	92	70
MS	7	6
MO	107	205
MT	0	0
NE	0	0
NV	7	3
NH	3	5
NJ	680	1,074
NM	5	0
NY	3,224	3,244
NC	61	67
ND	12	3
OH	99	113
OK	16	13
OR	5	11
PA	681	553
RI	415	101
SC	18	7
SD	3	2
TN	30	28
TX	82	44
UT	3	1
VT	1	11
VA	54	129
WA	33	31
WV	15	11
WI	456	337
WY	6	5
U.S. TOTAL	8,551	7,995

TABLE 2 REGIONAL LYME DISEASE CASES–UNITED STATES
PROVISIONAL DATA–1990;FINAL DATA–1989

REGIONS	CASES–1989	CASES–1990
MIDATLANTIC	4585	4871
NORTHEAST	1325	944
SOUTH ATLANTIC	1033	683
EAST NORTH CENTRAL	807	617
PACIFIC	289	389
WEST NORTH CENTRAL	256	310
WEST SOUTH CENTRAL	110	82
EAST SOUTH CENTRAL	83	85
MOUNTAIN	64	14
UNITED STATES TOTALS	8552	7995

BACTERIAL ZOONOSES BR.,DVBID,CID,CDC.

TABLE 3 TEN STATES WITH HIGHEST INCIDENCE OF LYME DISEASE
REPORTED CASES PER 100,000 POPULATION–1990

STATE	INCIDENCE–1990*
CONNECTICUT	21.55
NEW YORK	18.15
NEW JERSEY	13.75
RHODE ISLAND	10.12
DELAWARE	7.92
WISCONSIN	6.88
MARYLAND	5.09
PENNSYLVANIA	4.59
MISSOURI	3.94
GEORGIA	2.44

*INCIDENCE CALCULATED WITH PROVISIONAL REPORTED DATA.

BACTERIAL ZOONOSES BR.,DVBID,CID,CDC.

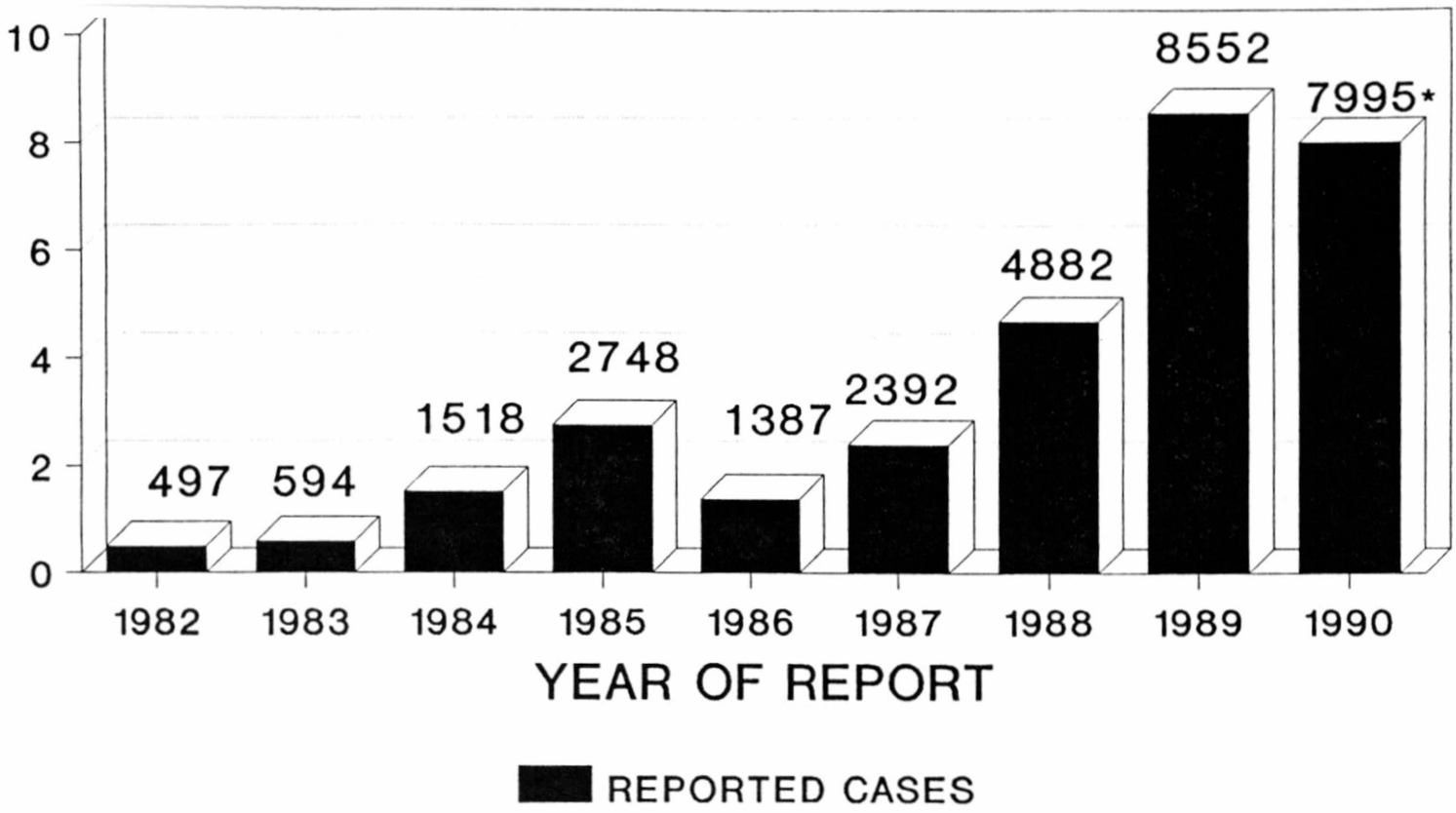

10
8
6
4
2
0
497
594
1518
2748
1387
2392
4882
8552
7995*
1982
1983
1984
1985
1986
1987
1988
1989
1990
YEAR OF REPORT
REPORTED CASES

FIGURE 2 Lyme Disease Case Reports, 1990*

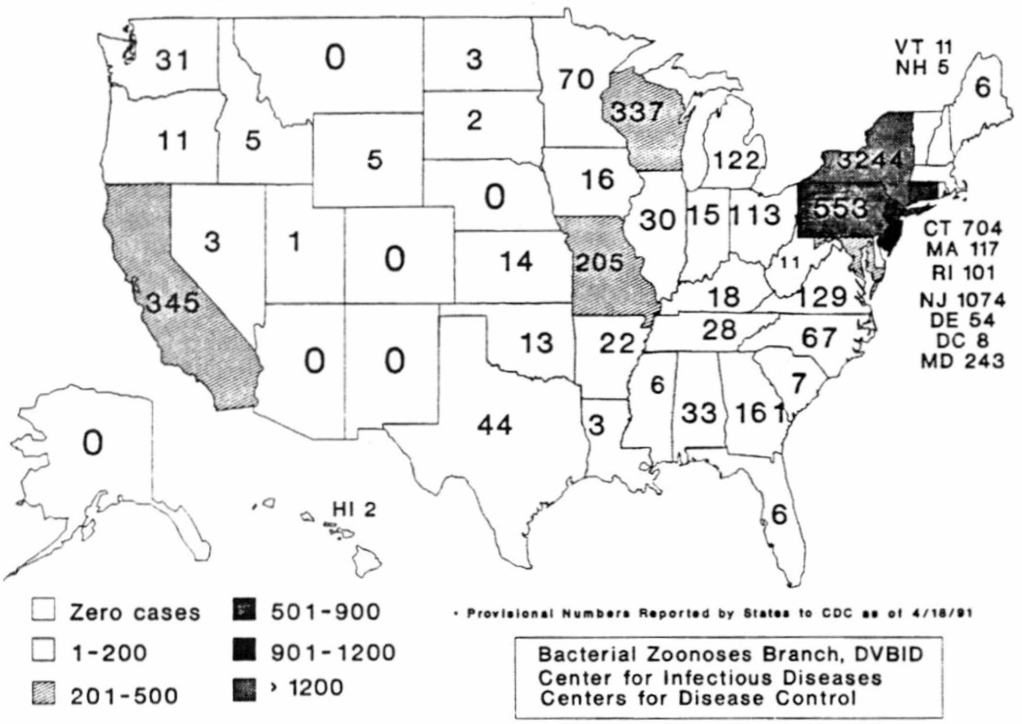
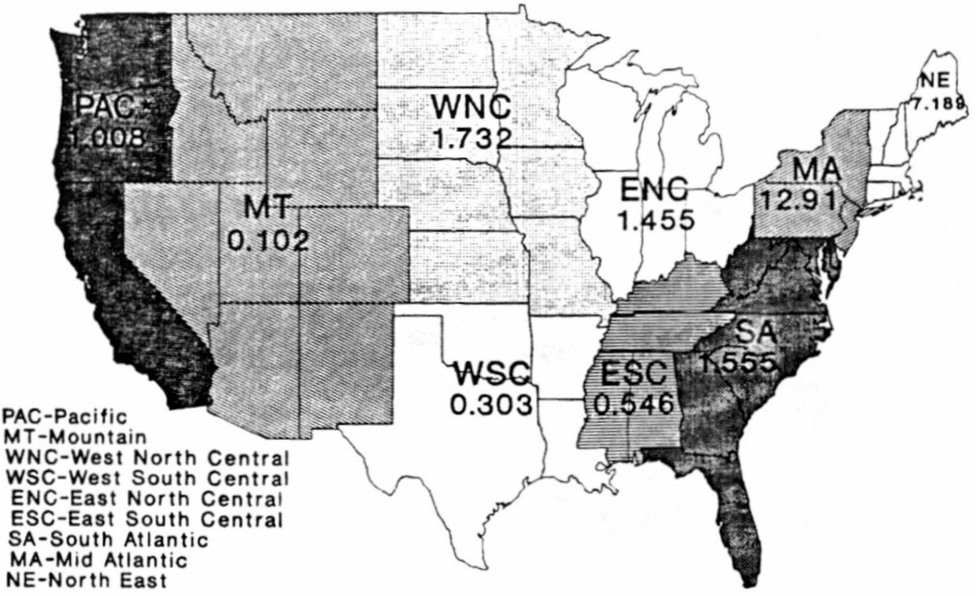


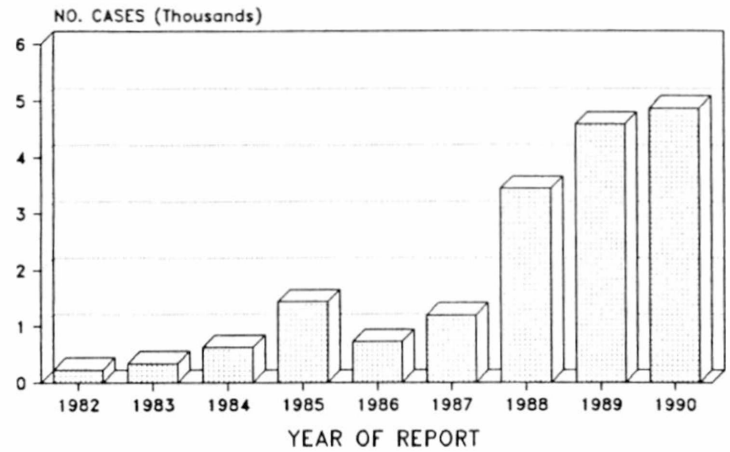
FIGURE 3 LYME DISEASE CASE REPORT RATES BY REGION, 1990



* Includes Alaska and Hawaii
+ Provisional Rates/100,000 population as of 4/18/91

Bacterial Zoonoses Branch, DVBID
Center for Infectious Diseases
Centers for Disease Control

FIGURE 4 MIDATLANTIC REGION REPORTED LYME DISEASE
REGIONALLY REPORTED CASES 1982–'90



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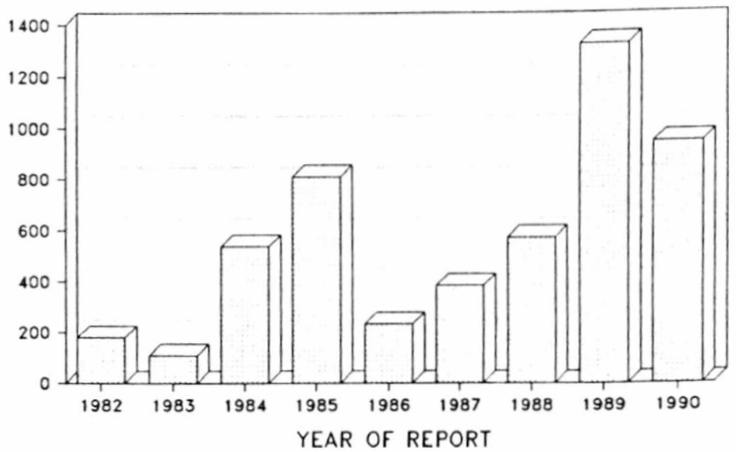
REGION-NJ,NY & PA.

FIGURE 5 NORTHEAST REGION REPORTED LYME DISEASE
REGIONALLY REPORTED CASES 1982–'90



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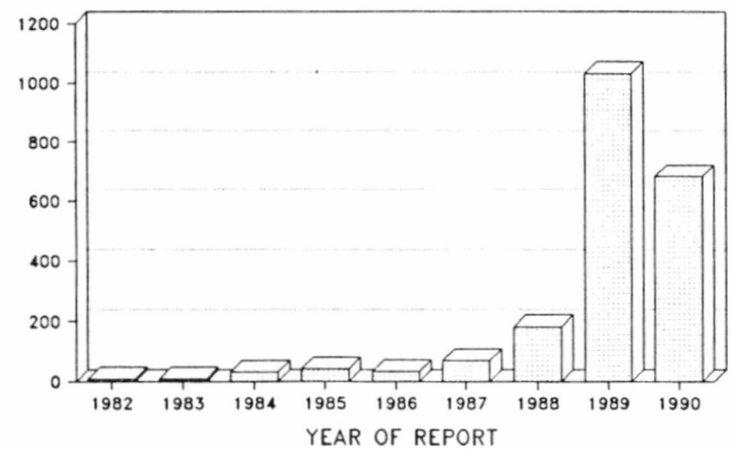
REGION-CT,ME,MA,RI & VT.

FIGURE 6 SOUTH ATLANTIC ZONE LYME DISEASE CASES
REGIONALLY REPORTED CASES 1982–'90



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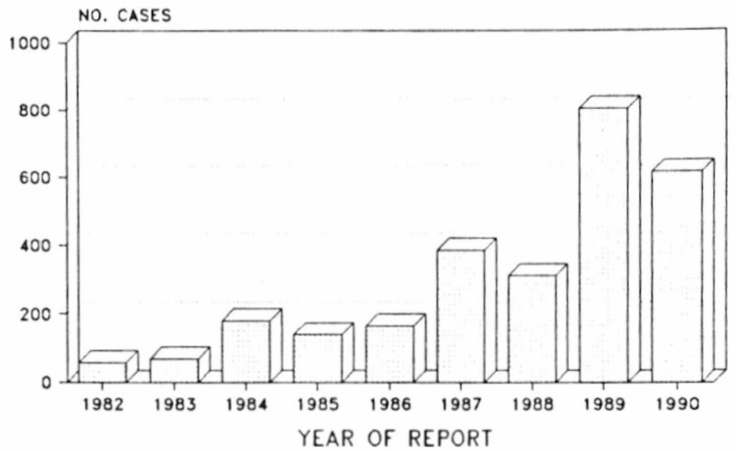
REGION-DE,DC,FL,GA,MD,NC,SC,VA & WV.

FIGURE 7 EAST NORTH CENTRAL REPORTED LYME DISEASE
REGIONALLY REPORTED CASES 1982–'90



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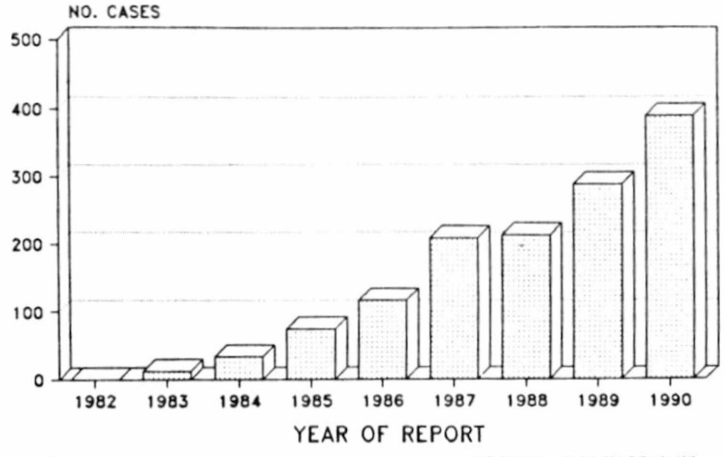
REGION-IL,IN,MI,OH & WI.

FIGURE 8 PACIFIC REGION REPORTED LYME DISEASE
REGIONALLY REPORTED CASES 1982–'90



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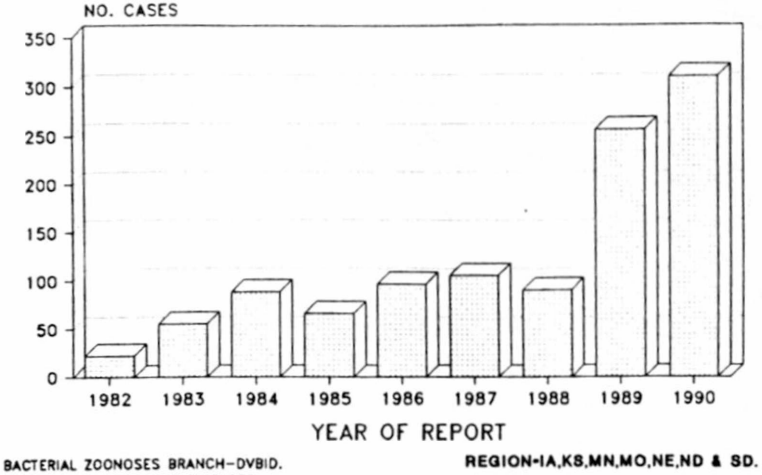
REGION-AK,CA,HI,OR & WA.

FIGURE 9 WEST NORTH CENTRAL REPORTED LYME DISEASE
REGIONALLY REPORTED CASES 1982–'90



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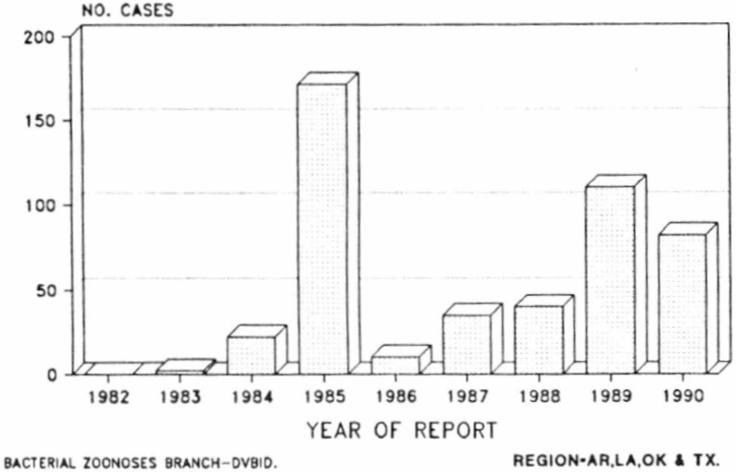
REGION-IA,KS,MN,MO,NE,ND & SD.

FIGURE 10 WEST SOUTH CENTRAL REPORTED LYME DISEASE
REGIONALLY REPORTED CASES 1982–'90



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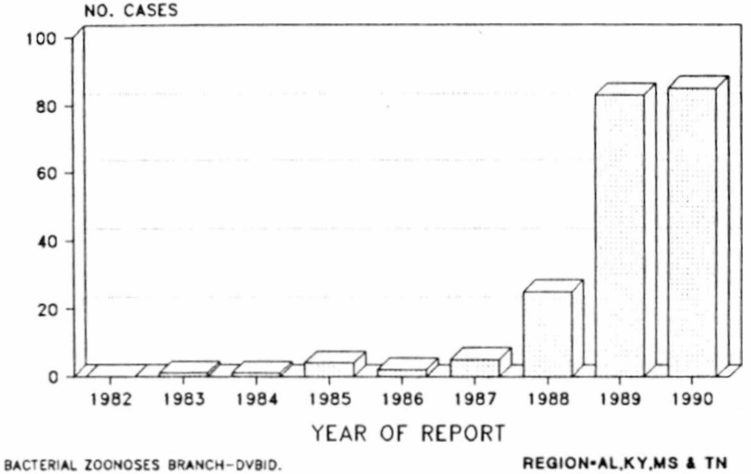
REGION-AR,LA,OK & TX.

FIGURE 11 EAST SOUTH CENTRAL REPORTED LYME DISEASE
REGIONALLY REPORTED CASES 1982–'90



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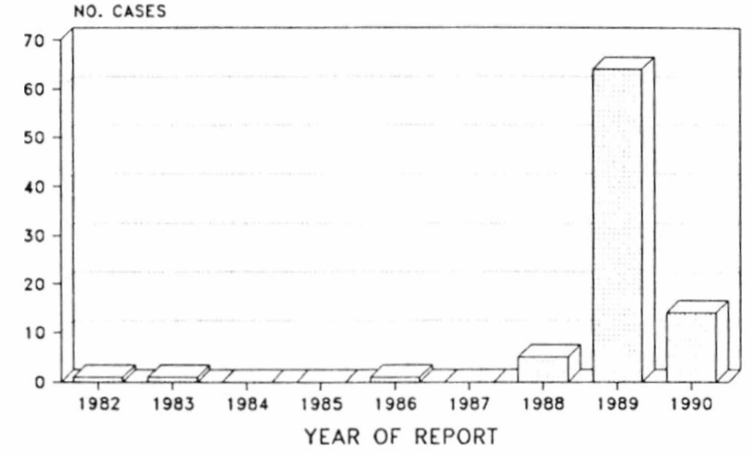
REGION-AL,KY,MS & TN

FIGURE 12 MOUNTAIN REGION REPORTED LYME DISEASE
REGIONALLY REPORTED CASES 1982–'90



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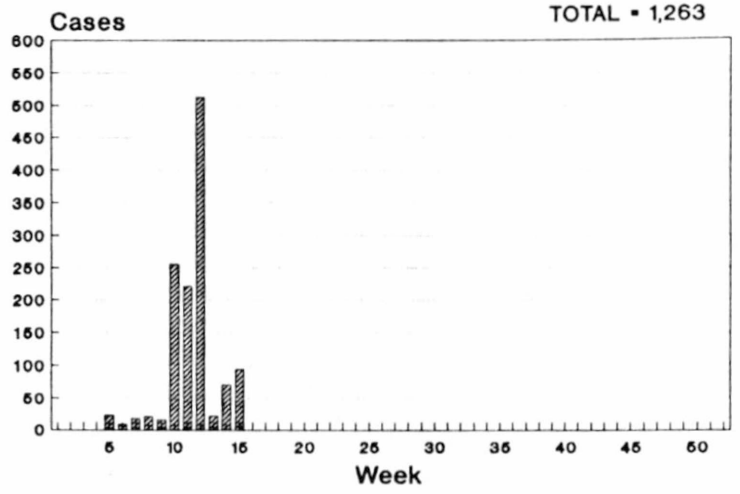
REGION=AZ,CO,ID,MT,NV,NM, & UT.

FIGURE 13 REPORTED LYME DISEASE CASES, U.S., 1991



REPORTED TO CDC THROUGH NETSS