**BACKGROUND**

- Lyme disease (LD) is vector-borne bacterial disease caused by spirochete *Borrelia burgdorferi*
- Vector of LD in U.S. is *Ixodes scapularis*
- Erythema migrans (EM) occurs within 1 month of infection in 70-80% of cases and is considered most reliable early sign of LD
- Late manifestations include rheumatologic, neurologic, and cardiac complications
- LD is endemic with increasing incidence in Northeast and upper Midwest
- LD case definition adopted by Council of State and Territorial Epidemiologists (CSTE) in 1996
- New LD surveillance case definition adopted in 2008

**METHODS**

- LD surveillance system previously evaluated using CDC guidelines
- Used 2007 case reports from Maine CDC LD surveillance system
- 2007 cases initially classified based on 1996 CSTE LD surveillance case definition
- 2007 cases then reclassified as confirmed, probable, suspect, or not based on 2008 CSTE LD surveillance case definition

**RESULTS**

- Among 1,103 reports in 2007, on basis of 1996 definition, 529 (40 cases/100,000 population) confirmed cases were identified and 574 were classified as non-cases
- Using 2008 definition, 568 (43 cases/100,000 population) confirmed cases were identified, 141 cases were identified as probable, 60 cases were identified as suspect, and 334 were classified as non-cases
- Confirmed cases increased by 7% and non-cases decreased by 42% with change in case definition
- Confirmed cases with the 2008 case definition that were not cases according to the 1996 case definition involved late manifestations with laboratory confirmation (notably an IgG positive immunoblot) where arthritis accounted for 90% [35 cases] and Bell’s palsy accounted for 10% [4 cases]

**LIMITATIONS**

- Laboratory information was incomplete on most LD case reports
- Subset of physicians/clinical laboratories request immunoblot only therefore reducing number of confirmed cases based on laboratory requirements of new case definition

**SUMMARY**

- Burden of LD disease increasing while resources remain unchanged
- Change in LD case definition had small effect on confirmed cases although non-cases dropped substantially

**RECOMMENDATIONS**

- Adopt electronic laboratory reporting to reduce workload of verifying laboratory information
- Educate health care providers and clinical laboratories of 2008 CSTE case definition and importance of two-tier testing
- Consider effect of change in case definition when examining future LD trends
- Adapt LD surveillance system to maximize data quality with minimal resources

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**DISCLAIMER**

The findings and conclusions in this poster have not been formally disseminated by the CDC and should not be construed to represent any agency determination or policy.