DEPARTMENT OF HEALTH & HUMAN SERVICES **Public Health Service**

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Centers for Disease Control and Prevention
National Center for Emerging & Zoonotic Diseases
Division of Vector-Borne Diseases
3156 Rampart Road
Fort Collins, Colorado 80521

June 17, 2019

Dear Mr. Fries, Ms. Ahern, and Mr. Fisk,

We have reviewed your information quality request for correction related to the frequency of erythema migrans (EM) rash in patients with Lyme disease. This request is listed as #65 on the HHS website on Information Quality Requests at: https://aspe.hhs.gov/information-requests-corrections-and-hhs-responses. In your request, you have asked that corrections be made in all CDC publications, websites, and presentation materials. After careful review and consideration, we do not believe that the evidence supports a revision of these materials.

The request for correction refers to Hanrahan et al. (1984) as the source of CDC's information about erythema migrans rash. This is incorrect.

There are many sources of data supporting a erythema migrans (EM) frequency of 70% or more among patients with Lyme disease. These data, as well as the rare, small series claiming a lower rate of EM, are subject to varying degrees of ascertainment bias that may influence the relative distribution of symptoms. The most reliable information, therefore, is derived from prospective cohort studies.

The largest prospective cohort study conducted to date involved 10,936 participants in 10 states who were followed for 20 months (Steere and Sikand, 2003). Among 267 participants who developed definite or possible *Borrelia burgdorferi* infection, 73% had EM, 18% had systemic symptoms without EM, 2% had cranial neuropathy or arthritis, and 7% had evidence of asymptomatic seroconversion. If one excludes the asymptomatic participants, the percentage with EM increases to 78%. Thus, the best available evidence supports an estimate of 70-80% as the frequency of EM among patients with Lyme disease.

If you wish to appeal this response to your request for a correction, you may send a written hard copy or electronic request for reconsideration within 30 days of receipt of the agency's decision. The appeal must state the reasons why the agency response is insufficient or inadequate. You must attach a copy of their original request and the agency's response to it. Clearly mark the appeal with the words, "Information Quality Appeal," and send the appeal by mail to CDC/ATSDR, Attn: Mailstop H21-8 (Attn.: Office of Science Quality), 1600 Clifton Road, N.E., Atlanta, GA 30333 or by e-mail to InfoQuality@cdc.gov.

Best regards,

/S/

Lyle Petersen, MD, MPH
Director, Division Of Vector-Borne Diseases
National Center for Emerging and Zoonotic Infectious Diseases
Centers for Disease Control and Prevention