

# Introduction to the Lyme Disease Vaccines Work Group

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Advisory Committee on Immunization Practices

# Public Health Problem – Lyme disease

- Most common vector-borne disease in the U.S.
- An estimated 476,000 people in the U.S. diagnosed and treated for Lyme disease each year<sup>1</sup>
- Estimated to cost \$345–968 million annually in health care costs<sup>2</sup>

1. Kugeler K *et al.* Emerg Infect Dis 2021; 27(2):616–619.

2. Hook S. *et al.* Emerg Infect Dis 2022; 28(6):1170–1179.

# Lyme Disease Vaccines Development

- **1990s**

- Several vaccines developed, each containing OspA antigens from *Borrelia burgdorferi*
- OspA antibodies neutralize spirochete in the tick midgut, thus preventing transmission
- LYMERix<sup>®</sup> licensed 1998; available 1998 – 2002 until discontinued by manufacturer due to low demand

- **2010s – 2020's**

- Steady increase in Lyme disease incidence, with expansion outward from high-incidence areas in the Northeast, mid-Atlantic, and Midwest
- VLA15, a multivalent recombinant protein vaccine, currently in phase 3 clinical trials
- mRNA vaccine candidates in early clinical trials

# ACIP Lyme Disease Vaccines Work Group Objectives

- Review epidemiology and burden of Lyme disease
- Review data about risk for Lyme disease
- Review safety, immunogenicity, and efficacy data for Lyme disease vaccine candidates
- Review economic analyses related to Lyme disease vaccination
- Develop Lyme disease vaccination policy options
- Identify areas where additional data are needed

# ACIP Lyme Disease Vaccines Work Group

- **Chair and work group members**
  - TBD
- **Lead**
  - Grace Marx

# ACIP Lyme Disease Vaccines Work Group Initial Timeline

- **May 2025 – first work group meeting**
- **June 2025 – ACIP presentation**
  - Epidemiology, burden, and clinical manifestations of Lyme disease

# Thank you.

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

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